Sensor and Surveillance Systems Product Catalog

2014

MOOG

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Sensor and Surveillance Systems

Moog Sensor and Surveillance Systems, a business unit of Moog Space and Defense Group, is comprised of four strategic acquisitions. The acquired companies wereformally known as QuickSet International, Videolarm, Inc, Pieper GMBH and Knox Video. This consortium serves surveillance needs on a broad scale spanning Commercial, Industrial and Military markets.

Moog designs and produces high-quality, scalable physical security and process monitoring solutions for extreme environments. Our unique offerings enable 24/7/365 asset protection, threat intervention, border protection, system health monitoring, and communication around the world.

MARKETS SERVED:

Commercial
- Transportation
- Maritime
- City-wide Surveillance
- Law Enforcement
- Broadcast Communications

Industrial
- Energy
- Oil & Gas
- Furnace Camers for:
  - Cement
  - Steel
  - Glass

Military
- Perimeter Security
- Border Security
- Vehicle and Man-portable
- Communication

OUR UNIQUE OFFERINGS INCLUDE:
- Camera Systems (IP and Analog)
  - Multi-spectral (HD / SD / Network / Analog)
  - Thermal
  - Explosion Proof
  - In-Furnace (extreme heat)
- Custom Integrated Sensor Solutions
- Furnace Probes / Retraction Devices
- Pan and Tilt Positioners
- Tripods
- Specialty Camera Enclosures
- Camera Poles and Lowering Devices
- Power Sources
- Wireless Systems

Capabilities

Whether designing products for a new market need or making adjustments to an existing system, the Moog team of engineers provides full design and rapid prototypingfor our customers.

Moog engineers have a reputation for building strong relationships with customers' engineers. Our people roll up their sleeves and become members of our customers' project teams, collaborating to understand application challenges and design effective solutions.

We believe in taking true systems engineering approach, giving our teams a broad perspective on the various systems, components, and technical issues involved. Moog engineers bring new energy, ideas, and viewpoints to projects, while continuing their focus on specialized areas of expertise.

- Systems Engineering
- Mechanical Design
- Electrical Design
- OEM Design
- Software Design
- Project Engineering
- Product Engineering
- Manufacturing Engineering
- Quality Engineering
- On-Site and Field Testing
- Rapid Prototyping
- Integrated System Design
- Turnkey industrial video and security systems for furnace applications
- After sales service – Spare parts logistics, servicing, inspection

Camera Systems

Thermal / High Definition (HD) Cameras

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Thermal Camera Selection Guide

The performance of thermal systems is highly dependent on atmospheric and environmental conditions. Factors such as ocean waves or weather related conditions like rain, snow, fog or mist will affect the performance of the sensors. Please contact a Moog sales representative to discuss your application before selecting a sensor.

640x512 sensor w/ 9mm lens

640x512 sensor w/ 13mm lens

640x512 sensor w/ 19mm lens

640x512 sensor w/ 25mm lens

640x512 sensor w/ 35mm lens

640x512 sensor w/ 50mm lens

640x512 sensor w/ 60mm lens

640x512 sensor w/ 100mm lens

THERMAL CAMERA SELECTION			
	RESOLUTION	f/#	FOV (H X V)
9mm	640 x 480 (NTSC) - 640 x 512 (PAL)	1.25	6.9˚ x 56˚
13mm	640 x 480 (NTSC) - 640 x 512 (PAL)	1.25	45˚ x 37˚
19mm	640 x 480 (NTSC) - 640 x 512 (PAL)	1.25	32˚ x 26˚
25mm	640 x 480 (NTSC) - 640 x 512 (PAL)	1.1	25˚ x 20˚
35mm	640 x 480 (NTSC) - 640 x 512 (PAL)	1.2	18˚ x 14˚
50mm	640 x 480 (NTSC) - 640 x 512 (PAL)	1.2	12.4˚ x 9.9˚
60mm	640 x 480 (NTSC) - 640 x 512 (PAL)	1.25	10.4˚ x 8.3˚
100mm	640 x 480 (NTSC) - 640 x 512 (PAL)	1.6	6.2˚ x 5.0˚
15 -100mm	640 x 480 (NTSC) - 640 x 512 (PAL)	1.4	6.2˚ x 5.0˚ to 42˚ x 54˚

GEMINEYE THERMAL IMAGING RANGES		
9mm Lens	69˚ HFOV	250 meters-Detection
		63 meters-Recognition
		31 meters-Identification
13mm Lens	45˚ HFOV	390 meters-Detection
		95 meters-Recognition
		47 meters-Identification
19mm Lens	32˚ HFOV	570 meters-Detection
		144 meters-Recognition
		72 meters-Identification
25mm Lens	25˚ HFOV	820 meters-Detection
		210 meters-Recognition
		104 meters-Identification
35mm Lens	18˚ HFOV	1140 meters-Detection
		280 meters-Recognition
		142 meters-Identification
50mm Lens	12.4˚ HFOV	1500 meters-Detection
		380 meters-Recognition
		190 meters-Identification
60mm Lens	10.4˚ HFOV	1750 meters-Detection
		450 meters-Recognition
		225 meters-Identification
100mm Lens	25˚ HFOV	2450 meters-Detection
		650 meters-Recognition
		330 meters-Identification

These products are subject to export control laws and regulations of the United States government and fall under the control jurisdiction of either ITAR or EAR regulations. Please contact our company Export Representative at +1-716-687-4930 for additional export information

EXO GeminEye Dual HD Camera System with Thermal Option

PRODUCT OVERVIEW

The IP-based EXO GeminEye High Definition (HD) Network Thermal and HD Visible Imaging System is the professional's choice for capturing brilliant, 1080P full HD video in maritime, transportation, and other high risk applications. As the market presses for more technologically advanced imaging products, the environment these products function in grows increasingly hostile. The EXO GeminEye modular Pan / Tilt imaging system meets the growing demand for high-performance surveillance solutions.

Completely customizable, the EXO GeminEye consists of a modular system of imager blocks that can be easily adjusted to accommodate multiple configurations. The dual integrated Moog sensor system offers the best of both worlds for Day / Night, real-time surveillance. Employing 24/7, clear and accurate observation through difficult environmental challenges significantly enhances detection, identification, and appropriate response to potential threats. The integration of various sensors into your surveillance system increases the level of intelligence available to your team.

PRODUCT SPECIFICATIONS

Available Features

- Cost effective, easy integration
- Detection in obscured environments
- 365/24/7 surveillance in challenging environments
- Scalable to augment existing systems
- Networked control
- Integrated H.264 and M-JPEG encoder with real time streaming video
- Approx. 3.27 Megapixels daylight camera
- Quick change daylight and thermal camera modules with true Plug and Play performance
- ONVIF, PSIA (Milestone, ONSSI), and GENETEC API, supported
- Edge recording (16GB microSDHC Class 10 UHS-I)

SPECIFICATIONS	
Models	**Description**
EXGVSHD-S13XXN	EXO IP HD GeminEye - 1/2.8 CMOS Visible Camera Only
320 x 256 Resolution Thermal Models*	
EXGVTSHD-S13XXN-F10F1NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 25mm thermal
EXGVTSHD-S13XXN-F10F9NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 35mm thermal
EXGVTSHD-S13XXN-F10F2NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 50mm thermal
EXGVTSHD-S13XXN-F10F10NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 60mm thermal
EXGVTSHD-S13XXN-F10F3NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 100mm thermal
EXGVTSHD-S13XXN-F10Z1NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 15-100mm thermal
640 x 480 Resolution Thermal Models*	
EXGVTSHD-S13XXN-F11F1NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 25mm thermal
EXGVTSHD-S13XXN-F11F9NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 35mm thermal
EXGVTSHD-S13XXN-F11F2NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 50mm thermal
EXGVTSHD-S13XXN-F11F10NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 60mm thermal
EXGVTSHD-S13XXN-F11F3NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 100mm thermal
EXGVTSHD-S13XXN-F11Z1NF	EXO IP HD GeminEye - 1/2.8 CMOS Visible and 15-100mm thermal
GENERAL	
Input Voltage:	12 - 32Vdc
Surge Protection:	Proprietary surge protection
Image Sensor:	1/2.8-type Exmor CMOS
Lens:	30x optical zoom, f=4.6mm (wide) to 138.0mm (tele)
Minimum Illumination:	Color: 0.5 lux at 50 IRE F1.6 • B/W: 0.04 lux at 50 IRE F1.6
Shutter Speed:	Automatic or user selectable
Pan / Tilt:	Pan Speed: 0.25° - 100°/sec • Tilt Speed: 0.25° - 60°/sec
Repeatability:	0.25°
Horizontal Viewing Angle:	1080p mode 59.5 (wide end) to 2.1 (tele end)
Minimum Object Distance:	10mm (wide end) to 1,200mm (tele end)
Digital Zoom:	12x (360x with optical zoom)

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EXO Corrosion Resistant HD Camera

PRODUCT OVERVIEW

The EXO Corrosion Resistant High Definition (HD) Network Camera System is the professional's choice for capturing brilliant, 1080P full HD video in areas of extreme corrosion, including applications in food, pharmaceutical, marine, coastal and petrochemical environments. The EXO Corrosion Resistant series, constructed of high-grade 316L Stainless Steel and available in both pressurized and non-pressurized models, is built tough to withstand extreme temperature ranges, power surges, heavy impacts and contamination from debris, chemicals and water.

PRODUCT SPECIFICATIONS

Available Features

- HD 1080P
- H.264 High Profile, MJPEG compression
- Manufactured with high-grade 316L SS
- 20x / 30x optical zoom models
- 30x zoom models have image stabilization
- Day / Night with auto IR-cut filter, Wide Dynamic Range
- ONVIF, PSIA (Milestone, ONSSI), and GENETEC API, supported
- Meets NEMA 4X and NEMA TS2 standards
- Micro-SD / SDHC / SDXC / support
- Video motion detection
- Audio synchronization
- Temperature range: -58ºF to 140ºF (-50°C to 60°C), up to 165ºF (74ºC) (Per NEMA TS2)
- Proprietary surge protection (Ethernet, power and alarm / data wires)
- IP67 (IP68 on Pressurized Models)
- Optional stainless steel wall mount

SPECIFICATIONS	
Models	**Description**
EXSS7C2-2	20x optical zoom, pendant mount with sunshield
EXSP7C2-2	20x optical zoom, Pressurized, Pendant mount with sunshield
EXSS7C2-3	30x optical zoom, Image Stabilization, Pendant mount with sunshield
EXSP7C2-3	30x optical zoom, Image Stabilization, Pressurized, Pendant mount with sunshield
GENERAL	
Dome:	OptiClear special Nylon blend
Schraeder Valve (Pressurized Model):	Nitrogen input
Pressure Relief Valve (Pressurized Model):	5-7 psi
Net Weight:	16 lb (7.4 kg.)
Dimensions (H x W x D):	14.3" x 11.3" x 11.3" (364 x 288 x 288mm)
Image Sensor:	1/2.8-type Exmor CMOS
Humidity:	0-100% N.C per MIL-E-5400T, paragraphs 3.2.24.4
Impact Rating:	IK-10
Maximum Windload:	150mph (240kph)
Vibration:	Conforms to NEMA TS2, para 2.1.9
Input Voltage / Power Input:	24Vac / 80W

EXO Pressurized PTZ HD Camera

PRODUCT OVERVIEW

The EXO Pressurized High Definition (HD) Network Camera System is the professional's choice for capturing brilliant, 1080P full HD video in areas of high contamination. The EXO Series is built tough to withstand extreme temperature ranges, power surges, heavy impacts, and contamination from debris, chemicals and water.

The pressurized outdoor pan-tilt-zoom high definition (HD) IP video camera totally protects electronics and lenses from debris, chemicals and other contaminants; thereby reducing service calls and extending camera life. Each pressurized unit includes a Schraeder valve to fill the housing with Nitrogen or another clean stable gas, and a 5-7psi pressure relief valve so that the unit cannot be over pressurized.

PRODUCT SPECIFICATIONS

Available Features

- HD 1080P
- 20x / 30x optical zoom models
- 30x zoom models have image stabilization
- Day / Night with auto IR-cut filter, Wide Dynamic Range
- ONVIF, PSIA (Milestone, ONSSI), and GENETEC API, supported
- Meets NEMA 4X and NEMA TS2 standards
- Micro-SD / SDHC / SDXC / support
- H.264 High Profile, MJPEG compression
- Video motion detection
- Audio synchronization
- Temperature range: -58ºF to 140ºF (-50°C to 60°C), up to 165ºF (74ºC) (Per NEMA TS2)
- Proprietary surge protection (Ethernet, power and alarm / data wires)
- IK10 Vandal Resistant

SPECIFICATIONS	
Models	**Description**
EXPF7C2-2	20x optical zoom, Pressurized, pendant mount with sunshield
EXPF7C2-3	30x optical zoom, Image Stabilization, Pressurized, pendant mount with sunshield
GENERAL	
Housing Style:	High-impact engineered plastic, UV protected with UL flame rating of UL94-5vA, Aluminum sunshield
Dome:	OptiClear, special Nylon blend
Mounting Style:	Pendant mount
Net Weight:	13 lb (5.9 kg.)
Dimensions (H x W x D):	14.4" x 11.2" x 11.2" (366 x 285 x 285mm)
Image Sensor:	1/2.8-type Exmor CMOS
Humidity:	0-100% N.C per MIL-E-5400T, paragraphs 3.2.24.4
Ingress Protection Rating:	IP67
Maximum Windload:	150mph (240kph)
Vibration:	Conforms to NEMA TS2, para 2.1.9
Input Voltage / Power Input:	24Vac / 80W

EXO Vandal Resistant HD Camera

PRODUCT OVERVIEW

The EXO Vandal Resistant High Definition (HD) Network Camera System is the professional's choice for capturing brilliant, 1080P full HD video in urban areas, prisons, and other high risk applications. The unit is built with hardened components to withstand extreme temperature ranges, power surges and heavy impacts.

PRODUCT SPECIFICATIONS

Available Features

- HD 1080P
- 20x / 30x optical zoom models
- 30x zoom models have image stabilization
- Day / Night with auto IR-cut filter, Wide Dynamic Range
- ONVIF, PSIA (Milestone, ONSSI), and GENETEC API, supported
- Meets NEMA 4 and NEMA TS2 standards
- Micro-SD / SDHC / SDXC / support
- H.264 High Profile, MJPEG compression
- Video motion detection
- Audio synchronization
- Temperature range: -58ºF to 140ºF (-50°C to 60°C), up to 165ºF (74ºC), Per NEMA TS2
- Proprietary surge protection (Ethernet, power and alarm / data wires)
- Multiple mounting options
- IK10 Vandal Resistant

SPECIFICATIONS	
Models	**Description**
EXVW7C2-2	20x optical zoom, Wall mount with sunshield
EXVP7C2-2	20x optical zoom, Pendant mount with sunshield
EXVW7C2-3	30x optical zoom, Image Stabilization, Wall mount with sunshield
EXVP7C2-3	30x optical zoom, Image Stabilization, Pendant mount with sunshield
GENERAL	
Dome:	Polycarbonate
Housing Style:	Aluminum and Stainless steel hardware
Mounting Style:	Wall and pendant mount models
Net Weight:	13 lbs (5.9 kg.)
Dimensions (H x W x D):	14.7" x 8.2" x 14.7" (375 x 210 x 375mm)
Image Sensor:	1/2.8-type Exmor CMOS
Humidity:	0-100% N.C per MIL-E-5400T, paragraphs 3.2.24.4
Shutter Speed:	Automatic or user selectable
Maximum Windload:	150mph (240kph)
Vibration:	Conforms to NEMA TS2, para 2.1.9
Input Voltage / Power Input:	24Vac / 80W
Mounting Pattern:	Pendant: 1.5"npt • Wall: (4) 2"x5.5" bolt pattern, .38" dia.

EXO Explosion Proof HD Camera

PRODUCT OVERVIEW

The EXO Explosion Proof High Definition (HD) Network Camera Systems, with H.264 High Profile and ONVIF support, are the professional's choice for capturing brilliant, 1080P full HD video in extreme applications. The EXO Series is built tough to withstand power surges, heavy impacts, and corrosion. EXO Pan-Tilt-Zoom (PTZ) Camera Systems are available in six models: EXO Pressurized, EXO Corrosion Resistant, EXO Bullet Resistant, EXO Vandal Resistant, EXO Surface Mount and EXO Explosion Proof.

PRODUCT SPECIFICATIONS

Available Features

- HD 1080P models
- 20x / 30x optical zoom models
- 30x zoom models have image stabilization
- Day / Night with auto IR-cut filter, Wide Dynamic Range
- ONVIF, PSIA (Milestone, ONSSI), and GENETEC API, supported
- Meets NEMA 4X standards
- Micro-SD / SDHC / SDXC / support
- H.264 High Profile, MJPEG compression
- Video motion detection
- Audio synchronization
- Temperature range: -20°F to 122°F (-29°C to 50°C)
- Proprietary surge protection (Ethernet, power and alarm / data wires)

SPECIFICATIONS						
Models	Description					
EXPD7C1-2	20x optical zoom, Purge system, Class I, Division 2, Groups A,B,C and D					
EXPD7C2-2	20x optical zoom, Purge system, Class II, Division 2, Groups E,F and G					
EXPD7C1-3	30x optical zoom, Purge system, Class I, Division 2, Groups A,B,C and D					
EXPD7C2-3	30x optical zoom, Purge system, Class II , Division 2, Groups E,F and G					
GENERAL						
Dome:	OptiClear special Nylon blend					
Housing Style:	High-impact engineered plastic, UV protected with UL flame rating of UL94-5vA, Aluminum sunshield					
Mounting Style:	Wall mount					
Net Weight:	25 lb (11.4 kg.)					
Dimensions (H x W x D):	Camera: 14.4" x 11.2" x 13.5" (367 x285 x 343mm) • Purge box: 16.6" x 16" x 6.7" (422 x 407 x 171mm)					
Image Sensor:	1/2.8-type Exmor CMOS					
UL Certifcations:	UL NFPA 496 Purged and Pressurized; UL NFPA 60950-1					
UL HAZARD CLASSIFICATIONS						
Class I, Division 2, Groups A, B, C and D:	Flammable gases, vapors or liquids: Ethylene, Propane, Ace Tylene, Hydrogen					
Class II, Division 2, Groups E, F, and G:	Flammable Metal dust, Carbonaceous dust, Grain dust					
PURGE SYSTEM SPECIFICATIONS						
Supply Pressure Range:	Supply Requirements:	Safe Pressure		Switch Setting (CI/CII):	Switch Conduit	
		(CI/CII)	Flow Rate		Port Size	Rating
5 - 120 psi	**Clean air or inert gas**	**0.25/1.0 psi**	**0.1 - 3.5 SCFH**	**0.15 / 0.5 + 0.02**	**½" FPT**	**120Vac, 15A**
Mounting Pattern:	Wall (4) 2"x8" bolt pattern, .38" dia.					
Power Input / Input Voltage:	110 / 120Vac, 15A					

EXO Fixed Vandal Resistant / Pressurized

PRODUCT OVERVIEW

The EXO Fixed Vandal Resistant and Pressurized High Definition (HD) Network Camera Systems are the professional's choice for capturing high definition video. The vandal resistant model is great for urban areas, prisons, and other high risk applications. The pressurized model is prefect for marine, coastal areas, traffic monitoring, and other areas of high contamination. Pressurized models include a schraeder valve to fill the camera with nitrogen or another clean stable gas, and a 5-7 psi pressure relief valve so that the unit cannot be over pressurized. This product is built with hardened components to withstand extreme temperature ranges, power surges and heavy impacts.

PRODUCT SPECIFICATIONS

Available Features

- HD 720P
- 12x optical zoom with auto focus
- Easy camera setup, no mechanical focus or focal length adjustment needed
- Day / Night with auto IR-cut filter, Wide Dynamic Range
- ONVIF, PSIA (Milestone, ONSSI), and GENETEC API, supported
- H.264 High Profile, MJPEG compression
- Temperature range: -58°F to 140°F (-50°C to 60°C),up to 165°F (74°C), Per NEMA TS2
- Proprietary surge protection (Ethernet and power), with warranty, eliminates need for 3rd party protection
- Meets NEMA 4 and NEMA TS2 standards
- PoE IEEE802.3at or 24Vac power
- Video motion detection
- Feed-through wall / pole mount included

SPECIFICATIONS	
Models	**Description**
EXVF5C-1	12x optical zoom, IK10 Vandal Resistant with wall / pole mount
EXPF5C-1	12x optical zoom, IP67 Pressurized with wall / pole mount
GENERAL	
Image Sensor:	1/4-type Exmor CMOS
Dimensions:	8.25" x 11.75" x 19.5" (209 x 298 x 495mm)
Net Weight:	10 lb (4.5 kg.)
Mounting Style:	Includes: wall / pole • Optional: mast arm or flat plate
Housing:	Aluminum and stainless steel hardware

EX-VD1 -Video Decoder Appliance

PRODUCT SPECIFICATIONS

Available Features

- Standard definition video output (BNC)
- High definition video output (HDMI)
- Easily integrate the decoder appliance into your existing video management solution through the Open API
- Ability to decode video provided by any H.264 compliant video source
- Can be combined with the EXO Series of cameras for point-to-point applications

High Quality Video Decoding:
Video is de-compressed to a high quality, high definition digital format using the HDMI connector for digital video out. For analog video, the BNC connector outputs to a standard definition NTSC / PAL component video format.

Quad View:
The EX-VD1 has the ability to simultaneously decode and display up to 4 high quality H.264 streams to a quad view on the HDMI or BNC output.

Secure:
Built-in encryption capability enables support for encrypted data communication channels and secured administrative interfaces.

Audio and Alarm Outputs:
Audio output and Alarm outputs, allowing unit to be paired with EXO Series of cameras for point to point applications.

Power Over Ethernet:
The installer-friendly EX-VD1 is powered over Ethernet (PoE) according to IEEE 802.3af which eliminates the need for power outlets.

Easy to Manage:
The Moog EX-VD1 GUI-based web interface makes set-up and management of the appliance nearly effortless. In addition, integration of the EX-VD1 into new or existing video management software is simple thanks to the intuitive Open API. The Open API exposes management and streaming functions through standard HTTP and RTSP interfaces and is supported by major NVR vendors.

Standard / Integrated Interfaces Specifications	
Video Out:	HDMI Connector for digital video and audio BNC Connector for analog composite video
Audio In:	Single analog audio input connector (3.5mm)
Audio Out:	Single analog audio output (3.5mm)
Network:	Standard 10/100 Base-T Ethernet port half / full duplex, auto-sensing, RJ-45
Alarm Out:	One closure contact (terminal bloc)
Relay In:	Two input relay contacts (terminal bloc)
COM Por:	Single serial port (RS-422/485) (terminal bloc)

Video Compression Specifications			
Standards:	H.264 High, Main and Baseline profiles Motion JPEG		
Data Rate:	64 kbps – 6 Mbps per channel SD (H.264 requires less than 1 Mbps @ 4CIF/30fps) 256kbps – 8 Mbps per channel HD (H.264 requires less than 2 Mbps @ 1280 x 960)		
Resolutions:	Analog HD	500 TV Lines 1080i/p lines 720p lines	**Interlacing / Progressive** 1920 Columns (540 lines per field-60 Fields/sec = 30 Frame/sec **Progressive** 1280 Columns 60 frame/sec

Audio Specifications	
Standards:	Uncompressed PCM High-fidelity AAC-LC G.711

Protocols Specifications	
Networking:	IPv4/v6, UDP, TCP, IGMP, ICMP, ARP, DHCP, DNS
Streaming:	RTP, HTTP
Management:	RTSP, HTTP, HTTPS, Bonjour, NTP, Telnet, FTP

General Features Specifications	
System Administration:	Web GUI interface (HTTP(s))
Programming Interface:	ONVIF Profile S, open API for software integration
System Monitoring:	Video signal, storage subsystem, power supply, temperature, network monitor
Software Update:	Fault-tolerant, remote accessible
Alarm Events:	Triggered by external input or internal event monitoring

Mechanical / Environmental Specifications	
Dimensions:	3.66 x 1.10 x 3.21”
Power:	12Vdc on terminal block or PoE
Operating Temperature:	-10°C to 60°C
Approvals:	FCC, CE

QView

QFD

QRH

PRODUCT OVERVIEW

The Moog QView™ camera system provides you with the advantages of a multi-camera system in one discrete housing. Up to four cameras are mounted to fully articulated, segmented arm brackets which can be adjusted to fit a wide range of viewing angles; all without the use of Pan / Tilt devices, controllers, or motors. The QView system is an ideal solution for monitoring multiple areas on a budget.

PRODUCT SPECIFICATIONS

Available Features

- Multiple cameras in a single dome take up less geography than multiple cameras in multiple locations
- One housing to install (rather than three or four) saves money on the initial installation and any future service calls
- Fixed cameras require little servicing and use the least amount of hard drive space
- With multiple fixed cameras you can capture continuous footage versus monitoring one direction at a time with a single PTZ camera
- Industry leading three-year warranty
- Up to four Day / Night (D&N) cameras with IR corrective lens
- Available with NVT (Network Video Technologies') twisted pair video outputs
- Factory installed system, ready to plug n' play

QView Camera Features / Options:

After selecting the appropriate housing, choose your camera features

Quantity of Cameras (2, 4):

All QView™ housings are capable of holding up to 4 cameras. Simply identify the number of areas you would like to monitor, and select the amount of cameras in correspondence. If you need 3 cameras order a model with 2 and purchase an additional camera module. The camera arms are fully adjustable and designed to prevent movement once positioned.

Twisted Pair (X2):

Depending on your needs, the QView system is available with an optional twisted pair configuration. Just add "–X2" to the end of the part number.

SPECIFICATIONS	
Models	**Description**
QFDPT2-70NA	Standard 7" outdoor, pendant mount, tinted dome, with (2) D&N cameras, 3.3-12mm auto-iris lens
QFDPT4-70NA	Standard 7" outdoor, pendant mount, tinted dome, with (4) D&N cameras, 3.3-12mm auto-iris lens
QRHPT2-70NA	Vandal Resistant housing, pendant mount, tinted dome, with (2) D&N cameras, 3.3-12mm auto-iris lens
QRHPT4-70NA	Vandal Resistant housing, pendant mount, tinted dome, with (4) D&N cameras, 3.3-12mm auto-iris lens
GENERAL	
Image Sensor:	1/3" Interline transfer CCD (Sony HAD IICCD)
Horizontal Resolution:	600 TVL
Minimum Illumination:	0.28 lux
White Balance:	Auto
Iris Control::	Auto

SView

PRODUCT OVERVIEW

All-in-One PTZ Video Monitoring System

Moog offers a highly sophisticated PTZ camera system with superb video quality, the SView is available in either IP or analog format. Designed for outdoor use, consisting of metal gearing and a durable Pan / Tilt, the SView system features an auto focus, hi-res, true Day / Night camera; 360x zoom (36x optical and 10x digital); two adjustable privacy zones; and 64 presets. Backed by an impressive industry leading 5-year warranty.

PRODUCT SPECIFICATIONS

Available Features

- Heavy-duty construction including metal gearing and a durable Pan / Tilt
- Auto focus, high-res true Day / Night camera (36x optical and 10x digital zoom)
- 64 presets and 3 auto-tours (sequential and random)
- Intelligent video capabilities: ONVIF compliant
- 360° continuous rotation
- Auto protocol and baud-rate selection
- Proportional zoom / Pan and Zoom / Tilt
- Two adjustable privacy zones
- Industry leading 5-year warranty
- Multiple H.264 streams

SPECIFICATIONS	
Models	**Description**
PFD7CN-3	7" outdoor pressurized IP PTZ camera system, OptiClear polycarbonate dome, fully pressurized, IP67 rated, pendant mount, with 24Vac input, heater / blower. No dust or moisture concerns
GENERAL	
Network Interface:	10 / 100 Base-T Ethernet
Power Consumption: (Watts)	30W for Camera: up to 50W for Heater / Blower
Preset Accuracy:	+/- .05 degree
Pan & Tilt Speed:	0.5°-80°/sec manual operation, 120°/sec preset
Tilting Angle:	2° to -90°, Automatic Flip
Operating Temperature:	-50°F to 165°F (-45°C to 74°C)
Imager:	¼" Exview HAD CCD
Lenses:	36x Zoom, 3.4-122.4mm, F1.6 to F4.5 Auto-Iris
Video:	Motion JPEG, MPEG-4 Part 2 (H.264)
Minimum Illumination:	Color 3 lux, B&W: 0.02 lux
H.264	
Resolution:	17 x 120 to 720 x 576
Video Streaming:	Multi-stream H.264 and Motion JPEG: 3 simultaneous, individually configured steams in max. resolution at 30/25 fps; more streams if identical or limited in frame rate/resolution. Controllable frame rate and bandwidth VBR/CBR H.264
Network	
Security:	Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, digest authentication, user access log
System Integration	
Intelligent Video:	Video motion detection, active tampering alarm, audio detection

PurgeDome

PRODUCT OVERVIEW

Moog offers an Explosion Proof camera system the, PurgeDome provides a highly effective solution for monitoring activity in explosive / hazardous environments. Models include UL Class 1-Division 2 and Class 2-Division 2 certifications. Operating on a supply of compressed air or inert gas, the PurgeDome system regulates the pressure within the sealed camera enclosure, protecting it from extremely hazardous fumes or gases, which could ignite in a violent explosion.

PRODUCT SPECIFICATIONS

Available Features

- UL approved for hazardous locations (Class 1-Division 2, Class 2-Division 2)
- Certified to UL NFPA 496 Purged and Pressurized enclosures for electrical equipment and to UL NFPA 60950-1 for information technology equipment
- 36x optical zoom and 12x digital zoom (432x Total)
- Auto focus, high-res integrated Day / Night IR sensitive camera / lens package
- IP66 rating for water and dust ingress
- 360° continuous rotation
- 16 user selectable privacy zones
- Integrated power box, 110 / 220Vac input
- Filter-regulator with pressure gauge provides clean, protective gas to the enclosure
- Differential pressure gauge indicates internal pressure

SPECIFICATIONS	
Models	**Description**
PDW7CN-901, 02, 03	Purged dome camera system for hazardous environments, IP network PTZ camera with 36x zoom lens, Day / Night, MPEG-4 and MJPEG video compression format, Full D1. 110/220Vac input. The product includes the camera, power box, purge box and a 100 ft. (30.5m) of hose to connect purge box to power box
PDW7CS-901, 02, 03	Purged dome camera system for hazardous environments, analog PTZ camera with 36x zoom lens, Day / Night, RS-422 communication, Moog, Pelco P&D protocols. 110/220Vac input. The product includes the camera, power box, purge box and a 100 ft. (30.5m) of hose to connect purge box to power box
Class 1-Division 2, Groups C and D	Pressurized video camera, Model 1001A-WPS-CI-Z-PM-VIDEOLARM-01
Class 1-Division 2, Groups A, B, C and D	Pressurized video camera, Model 1001A-WPSA-CI-Z-PM-VIDEOLARM-02
Class 2, Groups E, F and G	Pressurized video camera, Model 1001A-WPS-CII-Z-PM-VIDEOLARM-03
GENERAL	
Image Sensor:	¼" interline transfer CCD
Lens:	36x optical, (f=3.6mm-82.8mm)
Dimensions:	Camera: 14.4" x 11.2" x 11.2" (366 x 285 x 285mm) • Power Box: 2.3" x 8.7" x 5.7" (374 x 208 x 369mm)
Power Requirements:	110/120Vac, 15A
Operating Temperature:	-20°F to 122°F (-29°C to 50°C)
PTZ MECHANISM	
Pan Movement:	360° Continuous pan rotation
Vertical Tilt Unobstructed:	0° to -90°
Preset Speeds:	Pan: 120°/sec • Tilt: 120°/sec
PURGE SYSTEM SPECIFICATIONS	
System Dimensions:	16.6" x 16" x 6.7"
Temperature Range:	-20ºF to 120ºF (-29ºC to 49ºC)
Supply Pressure Range:	5 - 120 psi
Safe Pressure (CI/CII):	0.25/1.0
Safe Pressure Flow Rate:	120°/sec
Switch Setting (CI/CII):	0.15 / 0.5 + 0.02
Switch Conduit Port Size:	½" FPT

Pilot Dual Camera System

NEW!

PRODUCT OVERVIEW

The Pilot Surveillance Node features cutting edge surveillance capability in a rugged, reliable package; the type of performance you expect from Moog products. Its dual camera configuration and advanced design allow it to excel in situations where 24/7 surveillance capability is essential.

Applications for Pilot include situational awareness for military vehicles, local surveillance capability for first responders and remote sensing for unmanned ground vehicles. The combination of light weight and outstanding performance make it ideal for man portable systems that require a reliable system that is easy to set-up.

PRODUCT SPECIFICATIONS

The visible spectrum (day) camera provides excellent performance in conditions ranging from bright day light to very low level ambient lighting. The LWIR spectrum (night) camera provides effective imaging throughout all times of the Day / Night. Together, they yield a complete picture of your region of interest. Pilot provides continuous rotation in pan and 180° of travel in tilt. At speeds up to 100 deg/sec it can reach any point in its field of regard in about 2 second with position locking for high wind loads or mobile applications. It includes the newest electronics platform and software package ensuring scalability.

SYSTEM												
Part Number	Description	Feedback	Repeatability	Pan Speed	Tilt Speed	Pan Range	Tilt Range	Weight	Power	Communication	Control Protocols	Dimensions
PLVTS-S14XXN-F10F1NF	Pilot Dual Camera System - 1/4" CCD Visible and 25mm 320x256 thermal	Resonant Induction	<0.05°	.005 - 200º/sec	.005 - 100º/sec	Continuous Rotation	180° (± 90°)	16lbs	75w Max.; 10-32Vdc	RS-422	Moog or Limited Pelco D	8.20" (20.83cm) H x 10.74" (27.0cm) W Rotational Envelope
PLVTS-S14XXN-F10F2NF	Pilot Dual Camera System - 1/4" CCD Visible and 50mm 320x256 thermal											
PLVTS-S14XXN-F11F1NF	Pilot Dual Camera System - 1/4" CCD Visible and 25mm 640x512 thermal											
PLVTS-S14XXN-F11F2NF	Pilot Dual Camera System - 1/4" CCD Visible and 25mm 640x512 thermal											

VISIBLE CAMERA								
Key Features	Sensor Size	Lens	Lens Features	Angle of View	F/#	Digital Zoom	Output Format	Minimum Illumination
– Wide Dynamic Range Technology – Auto IR-cut Filter Removal (Auto ICR) – Image Stabilization – High resolution and sensitivity Images – Advanced Spherical PriVacy Zone – Slow AE Response Function	1/4" CCD	Integrated	10 x Optical zoom, F1.8 to F2.9 f= 4.2 mm (wide) to 42.0 (tele)	46° (wide end) to 4.6° (tele end)	1.8 - 2.9	10X (120X with optical zoom)	NTSC or PAL	1.0 lux (F1.8 NTSC: 1/60 sec, PAL: 1/50 sec)

Warrior Series

PRODUCT OVERVIEW

The Warrior 6 (WS6) offers an inconspicuous solution to video surveillance. The discrete and rugged vandal-resistant body of the WS6 is ideal for monitoring high risk areas in a compact and durable package. A 12-gauge steel front cover and polycarbonate window with scratch resistant coating protect camera equipment, while the 16-gauge steel back box conveniently allows wiring access through the top, side or bottom. The environmentally sealed front cover is secured with tamper-resistant fasteners. The Warrior 6 comes with a high resolution Day / Night color camera. The front cover is available in off-white or stainless steel powdercoat finishes. The stainless steel finish presents the WS6 in a more sophisticated light for environments, such as office lobbies, elevators and hotels. The sturdy construction and small size make it perfect in applications such as hospitals, schools, government buildings, and correctional facilities.

PRODUCT SPECIFICATIONS

Available Features

- Compact design
- High resolution Day / Night color camera, with 3.6mm fixed lens
- 12-gauge steel white front plate, optional stainless steel
- 16-gauge steel back box
- Adjustable camera bracket, allowing tilt
- Tough, 1/8" polycarbonate viewing window
- Conduit knockouts in the top, side, and bottom
- Vandal-proof paint shield (patent pending)

SPECIFICATIONS	
Models	**Description**
WS6-50NF	Warrior 6 Vandal Resistant Indoor corner mount camera, high resolution Day / Night Camera with 3.6mm fixed lens. Powdercoated white face plate
WS6S-50NF	Warrior 6 Vandal Resistant Indoor corner mount camera, high resolution Day / Night Camera with 3.6mm fixed lens. Stainless steel face plate
WS6-50NF-X2	WS6-50NF plus twisted pair
WS6S-50NF-X2	WS6S-50NF plus twisted pair
GENERAL	
Mounting Style:	Corner mount
Dimensions:	3.1" x 6.5" x 6.0" (77 x 165 x 127mm)
Net Weight:	3 lbs. (1.4 kg.)
Iris:	Electronic
Minimum Illumination:	0.75 Lux (F1.2 normal shutter speed)
Resolution:	650 TVL
Scanning System:	2:1 interlaced
Input Voltage:	15 - 28Vac / Vdc
Power Consumption:	5va (watts)
Operating Temperature:	0°F to 122°F (-18°C to 50°C)

Integrated Systems

Security and surveillance are critical 24/7 operations that cannot afford downtime – no matter what visibility, terrain, or environmental challenges are present. When off-the-shelf surveillance systems can't meet your needs, a well-designed integrated sensor imaging system may be your best defense in protecting your assets.

Moog is an industry leader in integrated sensor systems for a wide range of markets and mission critical applications. Our strategy is to supply customizable sensor solutions that are robust, reliable and highly supportable - providing the best possible protection of your assets:

- Highly ruggedized
- Various payload integration
- Quick change modules with true plug and play performance
- Quality and durable products reduce cost of ownership
- Built to withstand extreme environments
- Excellent performance in challenging terrains

Visible Cameras	Infrared Cameras	Laser Range Finders
Detection, Recognition, and ID	Detection, Recognition and ID	Distance to Target
Long Range Surveillance	Smoke, Fog, and Haze Penetration	Fixed Installation, Moving Targets
Identification Through Glass Barriers	Long Wave Infrared (LWIR)	Mobile Installation, Mobile Targets
Still Shots and Full Motion Video	Medium Wave Infrared (MWIR)	Geolocation
HD/IP/Megapixel Imaging	Short Wave Infrared (SWIR)	
Industrial Inspection / Explosion Proof	Thermal Signature and Change Detection	

Our experienced program management team has the hands-on knowledge to guide you through building a solid foundation for asset protection and threat intervention.

Key Considerations When Building an Integrated Sensor System:

- Potential threats to be detected
- Assets to be protected
- Terrain challenges
- Asset protection objectives
- Environmental challenges
- Detection range required

Non-Lethal Deterrents	Active Imaging/ Communications Devices*	Additional Integration Options*
Acoustic Hailers	Radar Systems and RF Antenna Pointing	Chem-Bio Sensors
Directed Communication	Slew to Cue Radar and GPS Systems	Radiation Sensors
Dazzler	Point to Point Microwave	Threat Detection
High-Intensity Illumination	Scanning Systems	Threat Classification
	Command and Control of Unmanned Systems	Chemical Cloud Detection
	Satellites	Lighting Systems

*Payloads provided and integrated by the OEM.

Dual Visible / Thermal Integrated Systems

PRODUCT OVERVIEW

Dual integrated sensor systems offer the best of both worlds for day/night, real-time surveillance. Employing 24/7, clear and accurate observation through difficult environmental challenges significantly enhances detection and appropriate response to potential threats. The integration of various sensors into your surveillance system increases the level of intelligence available to your team.

PRODUCT SPECIFICATIONS

Available Features

- Cost effective, easy integration
- Detection in obscured environments
- 365/24/7 surveillance in challenging environments
- Scalable to augment existing systems
- Networked control
- 32 programmable preset locations
- Programmable tours to accommodate specific surveillance requirements
- Ruggedized systems built to withstand extreme environments

VISIBLE SENSOR SPECIFICATIONS

Dual Visible /Thermal Vision System with Single Field of View (SFOV) LWIR Thermal Camera	Visible Range	Camera (Visible)	Lens	Focus	HFOV		F/#		min lux (F/1.2)	
					WFOV	NFOV	WFOV	NFOV		
PVTS-90098-9L100	Short	1/4"/ 768x494	Integral 3.5 - 91mm	Auto	42.2	1.6	1.6	3.8	2	—
PVTS-90122-9L100	Short	1/4"/ 768x494	Integral 3.4 - 122.4mm	Auto	57.8	1.7	1.6	4.5	1.4	—
Dual Visible /Thermal Vision System with Dual Field of View (DFOV) MWIR Thermal Camera										
PVTS-90240-9M250	Short	1/2"/ 768x494	12 - 240mm f/1.4 - 360	Motor Remote	35.3	1.5	1.5	360	1.4	—
PVTS-90375-9M250	Medium	1/2"/ 768x494	15 - 375mm f/2.3 - 360	Motor Remote	23.2	0.99	2.3	360	0.03	0.004
PVTS-90750-9M250	Long	1/2"/ 768x494	30 - 750mm f/4.6 - 720	Motor Remote	11.8	0.5	4.6	720	0.03	0.004
PVTS-90750-9M500	Long	1/2"/ 768x494	30 - 750mm f/4.6 - 720	Motor Remote	11.8	0.5	4.6	720	0.03	0.004
PVTS-91500-9M500	Very Long	1/2"/ 768x494	12.5 - 1500mm f/3.8 - 6000	Motor Remote	14.6	0.25	3.8	6000	0.03	0.004
PVTS-91500-9M750	Very Long	1/2"/ 768x494	12.5 - 1500mm f/3.8 - 6000	Motor Remote	14.6	0.25	3.8	6000	0.03	0.004
Dual Visible /Thermal Vision System with Continuous Zoom (CZ) MWIR Thermal Camera										
PVTS-90750-9M490	Long	1/2"/ 768x494	30 - 750mm f/4.6 - 720	Motor Remote	11.8	0.5	4.6	720	0.03	0.004
PVTS-91500-9M735	Very Long	1/2"/ 768x494	12.5 - 1500mm f/3.8 - 6000	Motor Remote	14.6	0.25	3.8	6000	0.03	0.004
PVTS-91500-9M11X	Very Long	1/2"/ 768x494	12.5 - 1500mm f/3.8 - 6000	Motor Remote	14.6	0.25	3.8	6000	0.03	0.004

THERMAL SENSOR SPECIFICATIONS*

Dual Visible /Thermal Vision System with Single Field of View (SFOV) LWIR Thermal Camera	Thermal Range	Camera Thermal: Microbolometer Un-Cooled (LWIR / 7.5 - 13.5)	Focus	HFOV		NEdT	Pan Speed/ Tilt Speed
				WFOV	NFOV		
PVTS-90098-9L100	Short	640x480, 17um, 100mm	Fixed	N/A	6.2	50 mK @ f/1.0	.005 - 50°/sec. / .005 - 12°/sec.
PVTS-90122-9L100	Short	640x480, 17um, 100mm	Fixed	N/A	6.2	50 mK @ f/1.0	.005 - 50°/sec. / .005 - 12°/sec.
Dual Visible /Thermal Vision System with Dual Field of View (DFOV) MWIR Thermal Camera		**Camera Thermal: InSb Cooled (MWIR / 3.4 - 5um) DFOV**					
PVTS-90240-9M250	Short/Medium	640x480, 15um, 50 / 250mm DFOV	Motorized Remote	11	2.2	75 mK @ f/1.0	.005 - 50°/sec. / .005 - 12°/sec.
PVTS-90375-9M250	Medium	640x480, 15um, 50 / 250mm DFOV	Motorized Remote	11	2.2	75 mK @ f/1.0	.005 - 25°/sec. / .005 - 8°/sec.
PVTS-90750-9M250	Medium	640x480, 15um, 50 / 250mm DFOV	Motorized Remote	5.5	2.2	75 mK @ f/1.0	.005 - 25°/sec. / .005 - 8°/sec.
PVTS-90750-9M500	Long	640x480, 15um, 100 / 500mm DFOV	Motorized Remote	5.5	1.1	75 mK @ f/1.0	.005 - 25°/sec. / .005 - 8°/sec.
PVTS-91500-9M500	Long	640x480, 15um, 100 / 500mm DFOV	Motorized Remote	5.5	1.1	75 mK @ f/1.0	.005 - 25°/sec. / .005 - 8°/sec.
PVTS-91500-9M750	Very Long	640x480, 15um, 100 / 750mm DFOV	Motorized Remote	3.6	0.7	75 mK @ f/1.0	.005 - 25°/sec. / .005 - 8°/sec.
Dual Visible /Thermal Vision System with Continuous Zoom (CZ) MWIR Thermal Camera		**Camera Thermal: InSb Cooled (MWIR / 3.4 - 5um) Continuous Zoom**					
PVTS-90750-9M490	Very Long	640x480, 15um, 39 - 490mm CZ	Motorized Remote	14.1	1.1	75 mK @ f/1.0	.005 - 25°/sec. / .005 - 8°/sec.
PVTS-91500-9M735	Very Long	640x480, 15um, 59 - 735mm CZ	Motorized Remote	9.4	0.75	75 mK @ f/1.0	.005 - 25°/sec. / .005 - 8°/sec.
PVTS-91500-9M11X	Very Long	640x480, 15um, 88 - 1100mm CZ	Motorized Remote	6.3	0.5	75 mK @ f/1.0	.005 - 25°/sec. / .005 - 8°/sec.

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Single Visible Integrated Systems

PRODUCT OVERVIEW

Moog single visible integrated systems offer effective broad range surveillance solutions with unsurpassed reliability at an affordable price. Our strategy is to supply sensor solutions that are robust, reliable and highly supportable, and provide the best possible protection of your assets.

PRODUCT SPECIFICATIONS

Available Features

- Quick plug and play features
- Easily scalable to augment existing systems
- Field replaceable modules
- Individual remote-controlled cameras
- 32 programmable preset locations
- Programmable tours to accommodate specific surveillance requirements
- Networked control
- Ruggedized
- Built to withstand extreme environments
- Excellent performance in challenging terrains
- High quality, durable products
- Mobile applications available

SPECIFICATIONS											
System Part Numbers	Visible Sensor Ranges	Camera	Lens	Focus	HFOV		F/#		min lux (F/1.2)		Pan Speed/Tilt Speed
					WFOV	NFOV	WFOV	NFOV	Color	B/W	
PVS-90098	Short	1/4"/ 768 x 494	5 - 98mm	Auto	55.8	2.1	1.35	3.7	0.65	—	.005 - 25°/sec .005 - 8°/sec
PVS-90122	Short	1/4"/ 768 x 494	3.4 - 122.4mm	Auto	57.8	1.7	1.6	4.5	1.4	—	.005 - 25°/sec .005 - 8°/sec
PVS-90240	Short	1/2"/ 768 x 494	12 - 240mm	Motor Remote	35.3	1.5	1.5	360	0.03	0.004	.005 - 25°/sec .005 - 8°/sec
PVS-90375	Medium	1/2"/ 768 x 494	375mm f/2.3 - 360	Motor Remote	23.2	0.99	2.3	360	0.03	0.004	.005 - 25°/sec .005 - 8°/sec
PVS-90750	Long	1/2"/ 768 x 494	750mm f/4.6 - 720	Motor Remote	11.8	0.5	4.6	720	0.03	0.004	.005 - 25°/sec .005 - 8°/sec
PVS-91500	Very Long	1/2"/ 768 x 494	1500mm f/3.8 - 6000	Motor Remote	14.6	0.25	3.8	6000	0.03	0.004	.005 - 25°/sec .005 - 8°/sec

Single Thermal Integrated Systems

PRODUCT OVERVIEW

Integrated thermal imaging systems provide the ability to detect threats normally invisible to the naked eye. When you need to quickly detect intrusions before they occur, a thermal integrated system is your first line of defense in asset protection. Thermal systems are ideal for detecting people, objects, and incidents in total darkness or challenging environmental situations.

PRODUCT SPECIFICATIONS

Available Features

- Reliable, high level of accuracy
- Detection in obscured environments
- 365/24/7 surveillance
- Easily scalable to augment existing systems
- Network control
- 32 programmable preset locations
- Programmable tours to accommodate specific surveillance requirements
- Ruggedized systems built to withstand extreme environments

SPECIFICATIONS						
System Part Numbers	Camera Thermal: Vox Microbolometer (LWIR) 7.5 – 13.5µm	Focus	HFOV		Sensitivity NEdT	Pan Speed / Tilt Speed
			WFOV	NFOV		
PTS-9L025	LWIR, 17um, 25mm	Fixed	N/A	25	50 mK @ f/1.0	.005 - 25°/sec .005 - 8°/sec
PTS-9L050	LWIR, 17um, 50mm	Fixed	N/A	12	50 mK @ f/1.0	.005 - 25°/sec .005 - 8°/sec
PTS-9L100	LWIR, 17um, 100mm	Fixed	N/A	6.2	50 mK @ f/1.0	.005 - 25°/sec .005 - 8°/sec
Positionable Single Thermal Imaging System Dual Field of View (DFOV)	**Imager Thermal: InSb Cooled (MWIR) DFOV 3.5 – 5µm**					
PTS-9M250	640x480, 15um, 50 / 250mm DFOV	Motorized Remote	11	2.2	75mK @ f/1.0	.005 - 25°/sec .005 - 8°/sec
PTS-9M500	640x480, 15um, 100 / 500mm DFOV	Motorized Remote	5.5	1.1	75mK @ f/1.0	.005 - 25°/sec .005 - 8°/sec
PTS-9M750	640x480, 15um, 100 / 750mm DFOV	Motorized Remote	3.6	0.7	75mK @ f/1.0	.005 - 25°/sec .005 - 8°/sec
Positionable Single Thermal Imaging System Continuous Zoom	**Imager Thermal: InSb Cooled (MWIR) Continuous Zoom**					
PTS-9M275	640x480, 15um, 22 - 275mm CZ	Motorized Remote	25	2	75mK @ f/1.0	.005 - 25°/sec .005 - 8°/sec
PTS-9M490	640x480, 15um, 39 - 490mm CZ	Motorized Remote	14.1	1.1	75mK @ f/1.0	.005 - 25°/sec .005 - 8°/sec
PTS-9M735	640x480, 15um, 59 - 735mm CZ	Motorized Remote	9.4	0.75	75mK @ f/1.0	.005 - 25°/sec .005 - 8°/sec
PTS-9M11X	640x480, 15um, 88 - 1100mm CZ	Motorized Remote	6.3	0.5	75mK @ f/1.0	.005 - 25°/sec .005 - 8°/sec

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Near IR Integrated Systems

PRODUCT OVERVIEW

The Moog engineered Near IR systems provide 365/24/7 visibility in low-light and night-time conditions. Through a combination of IR Illuminators and Day/Night sensors, our Near IR systems provide levels of recognition and identification that are unachievable with thermal sensors. Short, medium and long range systems push performance boundaries of illumination range, ensuring the highest level of surveillance is achieved.

PRODUCT SPECIFICATIONS

Available Features

- Cost effective, easy integration
- Offers 32 programmable preset locations
- Ethernet or Serial Control options
- Re-programmable tours to accommodate specific surveillance requirements
- Built to withstand extreme environments
- Scalable to augment existing systems

Key Applications Include:

- Critical Infrastructure Protection
- Perimeter Security
- Oil & Gas Installations
- Electrical Substation Installations

SYSTEM RANGE PERFORMANCE

Distances:	500 ft	1400 ft	3000 ft
Short Range:			
Medium Range:			
Long Range:			
Categories	0.15 km	0.42 km	0.91 km

Description: GeminEye, 1/4" CCD camera; NIR illuminator (850 nm).

SHORT RANGE SPECIFICATIONS

Visible Camera				Lens				Illuminator
Sensor Size	Effective Pixels	Digital Zoom	Key Features	Description	Focus	HFOV	Focal Length	
1/4" CCD	380,000	12x (336x with optical zoom)	StableZoom Image Stabilization, Digital Output (ITU-R BT656), Sodium Vapor Lamp, Temperature Readout, Color Enhancement, White Balance: Outdoor Auto Mode	Integrated 3.5 - 98mm, F1.35 - 3.7 IR Corrected	Autofocus	2.1° - 55.8°	3.5 - 98mm	48W, 850 nm NIR illuminator 20°x10° Field of Illumination

Description: QPT-35; 720p. w/ IPS (IP Streaming) video. NTSC/PAL for SD video. 1/3"; NIR illuminator (850 nm).

MEDIUM RANGE SPECIFICATIONS

Visible Camera			Lens					Illuminator
Sensor Size	Active Pixels	Resolution (H x V)	Description	Focus	NFOV	WFOV	Min. Lux.	
1/3" CMOS HD Sesor	1305 x 1049	720p HD 1280 x 720 480p SD Encoding: 704 x 480	8.6 - 154.0mm F2.5 - 360 IR Corrected	Autofocus	1.77°	58.3°	Sensitivity (3200 K, scene reflectivity 89%, F1.2) Minimum illumination (30 IRE) Color 0.017 lx (0.0017 fc) Monochrome 0.0057 lx (0.00057 fc)	48W, 850 nm NIR illuminator 20°x10° Field of Illumination

Description: QPT-50, 7-66100-BGP; 720p/30 w/ IPS (IP Streaming) video. NTSC/PAL for SD video. 1/3"; 11M Candlepower Spotlight + 715 nm or 850 nm NIR filter.

LONG RANGE SPECIFICATIONS

Visible Camera			Lens					Spotlight
Sensor Size	Active Pixels	Resolution (H x V)	Description	Focus	NFOV	WFOV	Min. Lux.	
1/3" CMOS HD Sesor	1305 x 1049	720p HD 1280 x 720 480p SD Encoding: 704 x 480	8.6 - 154.0mm F2.5 - 360 IR Corrected	Autofocus	1.77°	58.3°	Sensitivity (3200 K, scene reflectivity 89%, F1.2) Minimum illumination (30 IRE) Color 0.017 lx (0.0017 fc) Monochrome 0.0057 lx (0.00057 fc)	11M Candlepower + 715 or 850 nm NIR filter

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GeminEye Integrated Systems

Dual Camera GeminEye

PRODUCT OVERVIEW

The GeminEye® Modular Imaging Systems embrace high performance in a small package, and are designed to be configured for multiple applications.

The GeminEye can be configured with single or dual camera blocks for day, night or day/night capability. Various wavelength band sensors and illuminator modules are available. As a system, GeminEye is completely upgradable with image blocks swappable in the field by the user.

PRODUCT SPECIFICATIONS

Available Features

- Compact / light weight
- Quick-change camera modules (blocks) with true plug and play performance
- Network controllable or dedicated (UniCom®LT) controller
- HD Daylight Camera Systems available
- Mil-STD-810F, IP67, sealed and pressurized camera housings
- Qualified to random vibration, Salt/FogMIL-STD-810F, Method 509.4
- 10-30 Vdc operations
- Continuous pan rotation
- Mobile or inverted operation
- Mounting kits
- Illuminators with Quick-Site™ boresight mechanism
- Pelco compatible

VISIBLE BLOCKS

Part Number	Description	Sensor Size	Focal Length	Optical Zoom	Lens Type	Focus Type
GVB-S10XXN	VISB 1/4" CCD 995 3.4-122 12x 36x ZA N	1/4" CCD	3.5 - 98	28X	Zoom	Auto
GVB-S11XXN	VISB 1/4" CCD 1020 3.4-122 12x 36x ZA N	1/4" CCD	3.4 - 122	36X	Zoom	Auto

THERMAL BLOCKS*

Part Number	Description	Sensor Size	Pixel Size	FOV	Focal length	Digital Zoom	ƒ	Lens Type	Focus Type
GTB-F10F1NF	LWIR 320x256 25µ 25mm 4x ƒ1.1 F F NF	320 x 256	25 µ	18° x 14°	25mm	4X	ƒ1.1	Fixed	Fixed
GTB-F10F2NF	LWIR 320x256 25µ 50mm 4x ƒ1.2 F F NF	320 x 256	25 µ	9.1° x 6.9°	50mm	4X	ƒ1.2	Fixed	Fixed
GTB-F10F3NF	LWIR 320x256 25µ 100mm 4x ƒ1.6 F F NF	320 x 256	25 µ	4.6° x 3.4°	100mm	4X	ƒ1.6	Fixed	Fixed
GTB-F11F2NF	LWIR 640x512 17µ 50mm 4x ƒ1.2 F F NF	640 x 512	17 µ	12.4° x 9.9°	50mm	4X	ƒ1.2	Fixed	Fixed
GTB-F11F3NF	LWIR 640x512 17µ 100mm 4x ƒ1.6 F F NF	640 x 512	17 µ	6.2° x 5°	100mm	4X	ƒ1.6	Fixed	Fixed
GTB-F11Z1NF	LWIR 640X512 17µ 15-100 4X ƒ1.4 ZR NF	640 x 512	17 µ	39.9° x 6.2°	15-100mm	4X	ƒ1.4	Continuous Zoom	Remote

ILLUMINATOR BLOCKS

Part Number	Description	Old Part Number	F.O.V.	Wavelength
GIB-LU10	Illuminator Block 10° FOV	GIB-SC10	10°	850nm
GIB-LU20	Illuminator Block 20° FOV	GIB-SC20	20°	850nm
GIB-LU30	Illuminator Block 30° FOV	GIB-SC30	30°	850nm
GIB-LU60	Illuminator Block 60° FOV	GIB-SC60	60°	850nm

VISIBLE AND THERMAL CAMERA SYSTEMS*

Part Number	Description	Thermal Camera						Visible Block	Thermal Block	Illuminator Block
		Sensor Size	FOV	Focal Length	ƒ	Lens Type	Focus Type			
GVTS-S11XXN-F10F2NF	GEYE DUAL SYS VISB 1/4" CCD 36X ZOOM	320 x 256	9.1° x 6.9°	50mm	ƒ1.2	Fixed	Fixed	GVB-S11XXN	GTB-F10F2NF	N/A
GVTS-S10XXN-F10F2NF	GEYE DUAL SYS VISB 1/4" CCD 28X ZOOM	320 x 256	9.1° x 6.9°	50mm	ƒ1.2	Fixed	Fixed	GVB-S10XXN	GTB-F10F2NF	N/A
GVTS-S10XXN-F10F1NF	GEYE DUAL SYS VISB 1/4" CCD 28X ZOOM	320 x 256	18° x 14°	25mm	ƒ1.1	Fixed	Fixed	GVB-S10XXN	GTB-F10F1NF	N/A
GVTS-S11XXN-F10F1NF	GEYE Dual SYS VISB 1/4" CCD 36X ZOOM	320 x 256	18° x 14°	25mm	ƒ1.1	Fixed	Fixed	GVB-S11XXN	GTB-F10F1NF	N/A
GVTS-S11XXN-F11Z1NF	GEYE Dual SYS Sony1020 LWIR 640 w/15-100m	640 X 512	39.9° - 6.2°	15- 100	ƒ1.4	Continuous Zoom	Remote	GVB-S11XXN	GTB-F11Z1NF	N/A
GVTS-S10XXN-F11Z1NF	GEYE Dual SYS VISB 1/4" CCD 28X ZOOM	640 X 512	39.9° - 6.2°	15- 100	ƒ1.4	Continuous Zoom	Remote	GVB-S10XXN	GTB-F11Z1NF	N/A
GVTS-S11XXN-F11F3NF	GEYE DUAL SYS SONY 1020 LWIR 640 100MM NF	640 X 512	6.2° x 5°	100mm	ƒ1.6	Fixed	Fixed	GVB-S11XXN	GTB-F11F3NF	N/A
GVTS-S10XXN-F11F2NF	GEYE DUAL SYS VISB 1/4" CCD 28X ZOOM	640 X 512	12.4° x 9.9°	50mm	ƒ1.2	Fixed	Fixed	GVB-S10XXN	GTB-F11F2NF	N/A
GVTS-S11XXN-F11F2NF	GEYE DUAL SYS VISB 1/4" CCD 36X ZOOM	640 X 512	12.4° x 9.9°	50mm	ƒ1.2	Fixed	Fixed	GVB-S11XXN	GTB-F11F2NF	N/A
GVTS-S11XXN-F10F3NF	GEYE DUAL SYS SONY 1020 LWIR 320 100MM NF	320 x 256	4.6° x 3.4°	100mm	ƒ1.6	Fixed	Fixed	GVB-S11XXN	GTB-F10F3NF	N/A

VISIBLE SENSOR ONLY SYSTEMS

Part Number	Description	Thermal Camera						Visible Block	Thermal Block	Illuminator Block
		Sensor Size	FOV	Focal Length	ƒ	Lens Type	Focus Type			
GVS-S10XXN	GeminEye Single V SYS-VISB 1/4" CCD 28X ZOOM	N/A	N/A	N/A	N/A	N/A	N/A	GVB-S10XXN	N/A	N/A
GVS-S11XXN	GeminEye Single V SYS-VISB 1/4" CCD 36X ZOOM	N/A	N/A	N/A	N/A	N/A	N/A	GVB-S11XXN	N/A	N/A

THERMAL SENSOR ONLY SYSTEMS

Part Number	Description	Visible Camera Model	Thermal Camera						Visible Block	Thermal Block	Illuminator Block
			Sensor Size	FOV	Focal Length	ƒ	Lens Type	Focus Type			
GTS-F10F1NF	GeminEye Single T SYS-LWIR 320 w/ 25mm on LT-901	N/A	320 x 256	18° x 14°	25mm	ƒ1.1	Fixed	Fixed	N/A	GTB-F10F1NF	N/A
GTS-F10F2NF	GeminEye Single T SYS-LWIR 320 w/ 50mm on LT-901	N/A	320 x 256	9.1° x 6.9°	50mm	ƒ1.2	Fixed	Fixed	N/A	GTB-F10F2NF	N/A
GTS-F10F3NF	GeminEye Single T SYS-LWIR 320 w/ 100mm on LT-901	N/A	320 x 256	4.6° x 3.4°	100mm	ƒ1.6	Fixed	Fixed	N/A	GTB-F10F3NF	N/A
GTS-F11F3NF	GeminEye Single T SYS-LWIR 640 w/ 100mm on LT-901	N/A	640 X 512	6.2° x 5°	100mm	ƒ1.6	Fixed	Fixed	N/A	GTB-F11F3NF	N/A
GTS-F11Z1NF	GeminEye Single T SYS-LWIR 640 w/ 15-100mm on LT-901	N/A	640 X 512	39.9° - 6.2°	15- 100	ƒ1.4	Continuous Zoom	Remote	N/A	GTB-F11Z1NF	N/A

HD GEMINEYE - ANALOG COMPONENT VIDEO

Part Number	Description	HD Camera Specifications						Thermal Camera Specification*	
		Image Sensor	Lens	Signal System	No. of Pixels	Angle of View	Video Output	Sensor Size	Lens
GVSHD-S13XXN	Component HD GeminEye - 1/2.8 CMOS Visible Camera Only	1/2.8-type 'Exmor' CMOS	30x Optical Zoom, f=4.3 mm (wide) ~ 129.0mm (tele), F1.6 to F4.	HD: 1080p/29.97, 1080p/25, 1080i/59.94 (frame out 29.97 PsF), 1080i/50 (frame out: 25PsF) 720/59.94p, 720/50p, 720p/29.97, 720p/25	Approx. 3.27 million	H) 1080p/30 mode: 55.4° (wide end) to 2.9° (tele end) 720p/60, 30 mode: 37.6° (wide end) to 1.95° (tele end)	HD Analog: Component Y/Pb/Pr	n/a	
GVTSHD-S13XXN-F10F1NF-S	Component HD GeminEye - 1/2.8 CMOS Visible and 25mm 320x256 thermal							320x256	25mm
GVTSHD-S13XXN-F10F3NF-S	Component HD GeminEye - 1/2.8 CMOS Visible and 50mm 320x256 thermal								50mm
GVTSHD-S12XXN-F11Z1NF-S	Component HD GeminEye - 1/2.8 CMOS Visible and 100mm 320x256 thermal								100mm
GVTSHD-S13XXN-F10Z1NF-S	Component HD GeminEye - 1/2.8 CMOS Visible and 15-100mm 320x256 thermal								15-100mm zoom
GVTSHD-S13XXN-F11F1NF-S	Component HD GeminEye - 1/2.8 CMOS Visible and 25mm 640x480 thermal							640x480	25mm
GVTSHD-S13XXN-F11F2NF-S	Component HD GeminEye - 1/2.8 CMOS Visible and 50mm 640x480 thermal								50mm
GVTSHD-S13XXN-F11F3NF-S	Component HD GeminEye - 1/2.8 CMOS Visible and 100mm 640x480 thermal								100mm
GVTSHD-S13XXN-F11Z1NF-S	Component HD GeminEye - 1/2.8 CMOS Visible and 15-100mm 640x480 thermal								15-100mm zoom

ILLUMINATOR SYSTEMS

Part Number	Description	Illuminator FOV Options	Visible Block	Illuminator Block
GVS-S10XXN-LU10/20/30/60	GeminEye Illuminator System with VISB 1/4" CCD 28X ZOOM	10°, 20°, 30°, 60°	GVB-S10XXN	GIB-LU10/20/30/60
GVS-S11XXN-LU10/20/30/60	GeminEye Illuminator System with VISB 1/4" CCD 36X ZOOM	10°, 20°, 30°, 60°	GVB-S11XXN	GIB-LU10/20/30/60

GEMINEYE ACCESSORIES

Part Number	Description
	L Brackets
LT-475LB	QPT-LT "L"BRACKET SLAVE SIDE w/ Pass-through wiring
LT-450LB	QPT-LT "L"BRACKET DRIVE SIDE w/ Pass-through wiring
	Power Supply Outdoor
7-08964	Power Supply, Outdoor, Pole Mountable, 24Vdc, 10.2A
	Cables
6-20151-10/25/50	Power (2- 18 AWG), Aux (2 - 18AWG), 2x Video, Serial Comm to 4x connector, Gnd, CAT-5 to RJ45, available in 10, 25, and 50 ft lengths
	Bifurcated Cables
6-20127-16-16	16 ft Each (A) Power (2- 18 AWG), (B) Aux (2 - 18AWG), 2x Video, Serial Comm to 4x connector, Gnd, CAT-5
6-20127-50-50	50 ft Each (A) Power (2- 18 AWG), (B) Aux (2 - 18AWG), 2x Video, Serial Comm to 4x connector, Gnd, CAT-5
	Outdoor Power Supply AC Input Cables
6-19235-8/16/50	Cable, Input Power, 115Vac, available in 8, 16, and 50ft lengths
	Tripod
4-74434-FB	Tripod Samson 3 Section Leg, No Column, 40" Max. Height
4-74432-FB	Tripod Samson 2 Section Leg w/ Mount for QPT-20, QPT-50, and GeminEye, 58" Max Height
	Test Stand Kit
7-17555	Kit Test Stand GeminEye
	Mounts
7-17567	Pedestal Mount
7-17564	Wall Mount
7-17565	Pole adapter (requires addition of wall mount)
7-17566	Corner adapter (requires addition of wall mount)
	Video Management
LT-V1CUBE	IP Video Encoder Cube

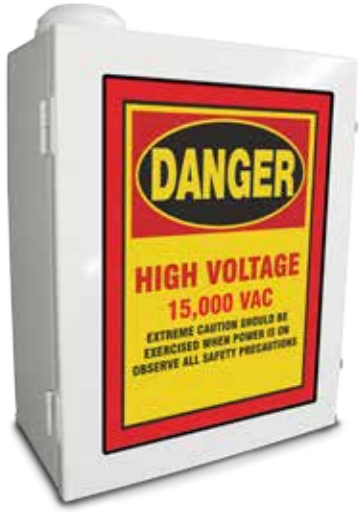
4-74434-FB

4-74432-FB

All visible camera part numbers are NTSC, and all thermal camera part numbers are fast frame rate. PAL and slow frame rate options are also available.

* These products are subject to export control laws and regulations of the United States government and fall under the control jurisdiction of either ITAR or EAR regulations. Please contact our company Export Representative at +1-716-687-4930 for additional export information.

Covert Surveillance Integrated Systems



PRODUCT OVERVIEW

The Covert Surveillance Camera System offered by Moog provides a versatile self-contained network and PTZ camera system in a covert, weather proof, portable, NEMA enclosure. The Covert Surveillance System is the ideal solution when the situation / environment calls for a hidden, flexible, rapid deployment system.

PRODUCT SPECIFICATIONS

Available Features

- PTZ with 36x optical zoom
- Highly efficient H.264 video compression
- Local storage
- Analytics
- Cellular, WiFi links
- Ideal in urban areas and on borders

INTELLIGENCE / SURVEILLANCE / RECONNAISSANCE

- Offers wider field coverage than competitor
- Designed, built and delivered within 12 days
- Covert turn key solutions for law enforcement

CAMERA SPECIFICATIONS	
Imager:	¼" Exview HAD CCD
Lenses:	36x Zoom, 3.4-122.4mm, F1.6 to F4.5 Auto-Iris
Video:	Motion JPEG, MPEG-4 Part 2 (H.264)
Resolutions:	4CIF, 2CIFExp, 2CIF, CIF, QCIF max 704x480 (NTSC) 768x576 (PAL)
Minimum Illumination:	Color: 3 lux, B&W: 0.02 lux

NETWORK SPECIFICATIONS	
Network Interface:	10/100 Base-T Ethernet
Protocols:	HTTP, HTTPS, SSL/TLS*, TCP, SNMPv1/v2cv/v3, (MIB-II), RTSP, RTP, UDP, IGMP, RTCP, SMTP, FTP, DHCP, UPnP, ARP, DNS, DynDNS, SOCKS

PAN / TILT SPECIFICATIONS	
Panning:	360° continuous pan rotation
Preset Accuracy:	+/- .05 degree
Pan & Tilt Speed:	0.5°-80°/sec manual operation, 120°/sec preset
Mode	
Preset Accuracy:	+/- .05 degree
Tilting Angle:	2° to -90°, Automatic Flip
Drive:	Belt-driven ¼-inch wide
Construction:	Bearings precision ball bearings \ permanently lubricated bushings

H.264 SPECIFICATIONS	
Video Compression:	H.264 (MPEG-4 Part 10/AVC) Motion JPEG
Resolution:	17 x 120 to 720 x 576
Video Streaming:	Multi-stream H.264 and Motion JPEG: 3 simultaneous, individually configured steams in max. resolution at 30 / 25 fps; more streams if identical or limited in frame rate/resolution. Controllable frame rate and bandwidth VBR / CBR H.264
Network Specifications	
Security:	Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, digest authentication, user access log

Pan and Tilt Positioners

PAN AND TILT CONFIGURATIONS

Moog pan and tilt models have been divided into several basic configurations:

1. Analog
2. IC: Integrated Control
3. ICM: Integrated Control Marine
4. ICMS: Integrated Control Marine Sentry
5. ICM – RF: Integrated Control Marine Radio Frequency
6. ICMS – RF: Integrated Control Marine Sentry Radio Frequency

Analog: All electrical power is delivered from the controller almost directly to the pan and tilt axis motors. There is one motor for each axis.

IC: Integrated Control (IC) includes electrical drivers from external controllers to inside the pan and tilt.

Marine: Pan and tilts are housed in rugged, welded, sealed enclosures that increase the range of its use to extreme and challenging environments. They are designed to be used primarily in coastal, marine, frigid, humid, dirty, sandy, and salty atmospheres. (Note: Marine versions of the QPT-20 use extruded aluminum housings.)

Sentry: The Sentry designation refers to the use of higher reliability stepper motor technology. Stepper motor drives are used for applications where constant velocity, higher dynamic range in rotational speed, torque, and incremental movement capability are required over that of the basic brush motor units.

RF: These units provide a means to pass RF signals through the body of the pan and tilt for continuous rotation applications.

PAN AND TILT WIRING AND CABLE CONFIGURATIONS

Formed Tabletop (FT): Basic tabletop; no payload interconnections going into or out of the pan and tilt to the payload.

Formed Tilt A (FTA): Formed tabletop with a single Mil-Spec I/O connector port located at the tilt axis. Pre-wired internal connections to this port allow the payload to interface with the power, serial control, lens control, A/D conversion, and capabilities of the pan and tilt.

Formed Tilt B (FTB): Formed tabletop with Mil-Spec I/O connector port located at the tilt axis. Pre-wired I/O connections to this connector go directly to the base connector. This allows the option to connect directly to the payload.

Universal: Wiring interface design incorporates multiple Mil-Spec connectors on the tabletop pre-wired for data, power and sensor control.

Single Ended Cables (SE): This cable configuration extends directly from the pan and tilt to the control point without any breakouts when the controller, power supply, and video interfaces are co-located at the same point.

Bifurcated Cables (Bi): This configuration takes into consideration the fact that DC power, required by our IC based units, cannot be located as far away from the pan and tilt as a control site can. Serially controlled pan and tilts, over copper wire, can be located as far as 4,000 ft. away using RS-422 / 485 formats. Ethernet based systems can be located up to 328 ft. away without a switch.

TESTED AND CERTIFIED

Moog products have been qualified to the following performance levels:

Product	Repeatability (Line of Sight)	Salt Spray Testing MIL-STD-810F	Sand and Dust Penetration (IP 6X)	Water Spray Penetration (IP X6)	Temp Range (Up to -40°C)	Vibration (HMMWV)	Shock (HMMWV)
GeminEye	0.25 deg	Passed	Passed	Passed	Passed	Passed (8 lbs)	Passed (8 lbs)
Apollo Class	0.05 deg	Passed	Passed	Passed	Passed	Passed (50 lbs)	Passed (50 lbs)
QPT-90	0.05 deg	Passed	Passed	Passed	Passed	Passed (90 lbs)	Passed (90 lbs)
QMP-R	0.05 deg	Qualified by Similarity	Passed	Passed	Passed	Passed (150 lbs)	Passed (150 lbs)

Abbreviated list of qualified products. Contact your sales rep for a full list.

AVAILABLE SYSTEM COLORS – STANDARD

Marine White – MWS*

Marine Navy Gray – MNG

Flat Black – FB
37030 #
CARC Black – CBLK

Desert Tan – BGP
33446 #
CARC – Desert Tan – BGC

Olive Drab – OD
34084 #
CARC Green – GRN

* Unless otherwise noted MWS is the default finish
# Federal Standard 595B
Contact your sales rep for custom finishes and pricing

Unless Otherwise Noted, product falls under the jurisdiction of the United States Government under the EAR (Export Administration Regulations) as EAR-99. Please contact our company Export Representative at +1-716-687-4930 for additional export information.

Pan & Tilt Positioners

Pan & Tilt Positioners

QPT-20 IC Series. 31
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QPT-200 and 500 IC Series. 36
Analog Series. 37
QPT-RF Series. 38
Mercury Series. 39
Low Profile Yoke. 40
Taurus / Taurus-R Series. 41

QPT-20 IC Series

Standard Configuration

PRODUCT OVERVIEW

The QPT-20 Series of pan and tilts are rugged and durable enough for virtually any environment, including port surveillance and mobile vehicle vision systems. The QPT-20 can handle payloads from 8 – 20 lb-ft, and provides tabletop and/or tilt axis load mounting for multiple sensor array applications. Digital Serial Integrated Control (IC) units communicate via network interface or through a dedicated controller (e.g. UniCom®).

PRODUCT SPECIFICATIONS

Available Features

- ICM configurations – 8 lb-ft (tilt) lifting torque
- ICMS configurations – 20 lb-ft (tilt) lifting torque
- Digital Serial Integrated Control (IC) models
- Mounting platforms include plain formed tabletop and tabletop with single tilt-axis connector
- Internal wire tabletop for pass-through or IC sensor wiring on certain models
- Fixed, Inverted, or Mobile Installations
- Mil-Spec Connectors
- Aluminum housings and hardened steel gearing for durability in harsh environments
- Marine configuration that meets IP-66 standard
- Connector (base): 32-Pin
- Connector (tilt axis): 26-Soc

Sensor Integration

- Multi-Spectrum cameras
- Thermal imagers
- IR and visible illuminators
- Laser range finders
- Communication antennas

SPECIFICATIONS										
Part Number	Configuration	Load Mount/ Interface	Nominal Voltage Vdc	Communication Interface	Control Protocol	Rotation Speeds*		Rotation Range		Repeatability Pan and Tilt
						Pan	Tilt	Pan	Tilt	
7-2200A	ICM	FT-A	12	Serial / IP	PTCR-20/Pelco D	1 - 14°/ sec.	1 - 5°/ sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-2200B	ICM	FT-B	12	Serial / IP	PTCR-20/Pelco D	1 - 14°/ sec.	1 - 5°/ sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-22HSA	ICM HS	FT-A	24	Serial / IP	PTCR-20/Pelco D	1 - 30°/ sec.	1 - 12°/ sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-22HSB	ICM HS	FT-B	24	Serial / IP	PTCR-20/Pelco D	1 - 30°/ sec.	1 - 12°/ sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-2300A	ICM CR	FT-A	12	Serial / IP	PTCR-20/Pelco D	1 - 14°/ sec.	1 - 5°/ sec.	Continuous	180°(± 90°)	0.25°
7-2300B	ICM CR	FT-B	12	Serial / IP	PTCR-20/Pelco D	1 - 14°/ sec.	1 - 5°/ sec.	Continuous	180°(± 90°)	0.25°
7-23HSA	ICM CR HS	FT-A	24	Serial / IP	PTCR-20/Pelco D	1 - 30°/ sec.	1 - 12°/ sec.	Continuous	180°(± 90°)	0.25°
7-23HSB	ICM CR HS	FT-B	24	Serial / IP	PTCR-20/Pelco D	1 - 30°/ sec.	1 - 12°/ sec.	Continuous	180°(± 90°)	0.25°
7-2500A	ICMS CR	FT-A	12	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 4°/sec.	Continuous	180°(± 90°)	0.05°
7-2500B	ICMS CR	FT-B	12	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 4°/sec.	Continuous	180°(± 90°)	0.05°
7-25HSA	ICMS CR HS	FT-A	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°
7-25HSB	ICMS CR HS	FT-B	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°

ICM - Marine / Brush Motor, ICMS - Marine Sentry (Stepper), CR - Continuous. Rotation, HS - High Speed

Serial: RS-232, RS-422, IP: Ethernet TCP/IP

FT – Formed Tabletop

* At stated load capacity and nominal voltage

QPT-35 IC Series

NEW!

Standard Configuration

PRODUCT OVERVIEW

The QPT-35 provides rugged, durable performance for short to mid-range imaging applications. It is also ideal for positioning smaller antennae in almost any environment. The QPT-35 excels in operations where situational awareness is the key to success.

The QPT-35 can support both single and dual payloads. Its high payload to positioner weight ratio of more than 3:1 for fixed installation optimizes the efficiency of employing a system. It delivers great pointing repeatability to less than 0.05 degrees. The QPT-35 is also designed and tested for mobile use, making it one the most well rounded products in our extensive catalog.

PRODUCT SPECIFICATIONS

Available Features

- ICMS configurations – 35 lb-ft (tilt) lifting torque
- Digital Serial Integrated Control (IC) models
- Mounting platforms include plain formed tabletop with dual tilt-axis connectors.
- Fixed, Inverted, or Mobile Installations
- Mil-Spec Connectors
- Tough metal housing and gearing for durability in harsh environments
- Marine configuration that meets IP-66 standard
- Connector (base): 28-Pin
- Connector (tilt axis): One 23-soc and one 26-soc

Sensor Integration

- Multi-Spectrum cameras
- Thermal imagers
- IR and visible illuminators
- Laser range finders
- Communication antennas

SPECIFICATIONS										
Part Number	Configuration	Load Mount/ Interface	Nominal Voltage Vdc	Communication Interface	Control Protocol	Rotation Speeds*		Rotation Range		Repeatability Pan and Tilt
						Pan	Tilt	Pan	Tilt	
7-26000	ICMS	Universal	24	Serial / IP	PTCR-96/Pelco D	0.005 - 20°/ sec.	0.005 - 5°/ sec.	CR	180°(± 90°)	0.05°

ICM - Marine / Brush Motor, ICMS - Marine Sentry (Stepper), CR - Continuous Rotation, HS - High Speed

Serial: RS-232, RS-422, IP: Ethernet TCP/IP

FT – Formed Tabletop

* At stated load capacity and nominal voltage

QPT-50 IC Series

Apollo® Series

Standard Configuration

PRODUCT OVERVIEW

The QPT-50 Series of pan and tilts are rugged and durable for virtually any environment. The QPT-50 can handle payloads up to 50 lb-ft of torque making it suitable for a wide range of sensors.

Integrated Control (IC) units communicate via networked PC or through a separate controller. IC units feature integrated dual sensor serial control, lens drive, and power supply interface, making sensor integration quick and easy. The Sentry line takes our products to the next level by utilizing stepper motor technology into the design for more precise accuracy and broader speed control.

PRODUCT SPECIFICATIONS

Available Features

- Payloads up to 50 lb-ft (67.8 Nm)
- Digital Serial Integrated Control (IC) models
- Mounting platforms include formed tabletop with single tilt-axis connector and 4 connector Universal models
- Internal wire tabletop for pass-through or IC sensor wiring on certain models
- Fixed, inverted or mobile installations
- Mil-Spec connectors
- Tough metal housing and gearing for durability in harsh environments
- Marine configuration that meets IP-66 standard
- Models available with RF pass-through connectivity (RF rotary joint, 1 and 2 channels)
- Apollo Series meets IP-67 standard
- Pressurized housing available with formed tabletop models
- Connector (base): 43-Pin
- Connector (tilt axis): 26-Soc (1 or 4)

Sensor Integration

- Multi-Spectrum cameras
- Thermal imagers
- IR and visible illuminators
- Laser range finders
- Communication antennas
- Acoustic devices

SPECIFICATIONS

Part Number	Configuration	Load Mount/ Interface	Nominal Voltage Vdc	Communication Interface	Control Protocol	Rotation Speeds*		Rotation Range		Repeatability Pan and Tilt
						Pan	Tilt	Pan	Tilt	
7-6100A	IC	FT-A	24	Serial / IP	PTCR-20/Pelco D	1 - 25°/sec.	0.3 - 7°/sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-6100B	IC	FT-B	24	Serial / IP	PTCR-20/Pelco D	1 - 25°/sec.	0.3 - 7°/sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-6200A	ICS	FT-A	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	435°(± 217.5°)	180°(± 90°)	0.1°
7-6200B	ICS	FT-B	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	435°(± 217.5°)	180°(± 90°)	0.1°
7-6300A	ICS CR	FT-A	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	Continuous	180°(± 90°)	0.1°
7-6300B	ICS CR	FT-B	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	Continuous	180°(± 90°)	0.1°
7-6600A	ICMS CR Apollo	FT-A	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	Continuous	180°(± 90°)	0.05°
7-6600B	ICMS CR Apollo	FT-B	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	Continuous	180°(± 90°)	0.05°
7-66000	ICMS CR Apollo	Universal	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	Continuous	180°(± 90°)	0.05°
7-66480	ICMS CR HS Apollo	Universal	48	Serial / IP	PTCR-96/Pelco D	.005 - 60°/sec.	.005 - 12°/sec.	Continuous	180°(± 90°)	0.05°

ICM - Marine / Brush Motor, ICMS - Marine Sentry (Stepper), CR - Continuous Rotation, HS - High Speed

Serial: RS-232, RS-422, IP: Ethernet TCP/IP

* At stated load capacity and nominal voltage

FT – Formed Tabletop

QPT-90 IC Series

ICMS Model (Universal Shown)

Standard Configuration (IC)

PRODUCT OVERVIEW

The QPT-90 Series of pan and tilts are a high performance and versatile platform designed for a wide variety of positioning and sensor support applications. The QPT-90 supports payloads requiring 90 lb-ft of torque. Integrated Control processor (IC) units feature dual sensor serial control, lens drive, and power supply interfaces, making sensor integrations quick and easy. Serial IP units communicate via networked communications or dedicated joystick controller (Unicom® controller).

The Sentry line takes our products to the next level by integrating stepper motors into the design for higher precision movements and broader speed control. Universal configurations provide internal and external payload interfacing. Our RF units provide one to three pass-through channels for up to 18GHz bandwidth performance.

PRODUCT SPECIFICATIONS

Available Features

- Payloads up to 90 lb-ft (122 Nm)
- Digital Serial Integrated Control (IC) models
- Mounting platforms include formed tabletop with single tilt-axis connector and 4 connector Universal models
- Internal wire tabletop for IC or pass-through sensor wiring
- Fixed, inverted or mobile installations
- Mil-Spec connectors
- Tough metal housing and gearing for durability in harsh environments
- Marine configuration that meets IP-67 standard
- Models available with RF pass-through connectivity (RF rotary joint, 1-3 channels)
- Thermostatically controlled heaters standard
- Connector (base): 43-Pin
- Connector (tilt axis): 26-Soc (1 or 4)

Sensor Integration

- Multi-Spectrum cameras
- Thermal imagers
- IR and visible illuminators
- Laser range finders
- Communication antennas
- Acoustic devices

SPECIFICATIONS

Part Number	Configuration	Load Mount/ Interface	Nominal Voltage Vdc	Communication Interface	Control Protocol	Rotation Speeds*		Rotation Range		Repeatability Pan and Tilt
						Pan	Tilt	Pan	Tilt	
7-7400A	IC	FT-A	24	Serial / IP	PTCR-20/Pelco D	1 - 8°/sec.	1 - 4.5 °/sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-7400B	IC	FT-B	24	Serial / IP	PTCR-20/Pelco D	1 - 8°/sec.	1 - 4.5 °/sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-7500A	ICM	FT-A	24	Serial / IP	PTCR-20/Pelco D	1 - 8°/sec.	1 - 4.5 °/sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-7500B	ICM	FT-B	24	Serial / IP	PTCR-20/Pelco D	1 - 8°/sec.	1 - 4.5 °/sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-7600A	ICMS	FT-A	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	435°(± 217.5°)	180°(± 90°)	0.05°
7-7600B	ICMS	FT-B	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	435°(± 217.5°)	180°(± 90°)	0.05°
7-76000	ICMS	Universal	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	435°(± 217.5°)	180°(± 90°)	0.05°
7-7700A	ICMS CR	FT-A	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°
7-7700B	ICMS CR	FT-B	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°
7-77000	ICMS CR	Universal	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°
7-77480	ICMS CR HS	Universal	48	Serial / IP	PTCR-96/Pelco D	.005 - 45°/sec.	.005 - 14°/sec.	Continuous	180°(± 90°)	0.05°

ICM - Marine / Brush Motor, ICMS - Marine Sentry (Stepper), CR - Continuous Rotation, HS - High Speed

Serial: RS-232, RS-422, IP: Ethernet TCP/IP

FT – Formed Tabletop

* At stated load capacity and nominal voltage

QPT-130 IC Series

PRODUCT OVERVIEW

The QPT-130 Series of pan and tilts are built to withstand harsh environments, and can hold up to 130 lb-ft of torque.

Integrated Control (IC) units communicate via networked PC or through a separate controller. IC units feature integrated dual sensor serial control, lens drive, and power supply interface, making sensor integration quick and easy. The Sentry line takes our products to the next level by utilizing stepper motor technology into the design for more precise accuracy and broader speed control.

Standard Configuration (IC)

PRODUCT SPECIFICATIONS

Available Features

- Payloads up to 130 lb-ft
- Digital Serial Integrated Control (IC) models
- Mounting platform is formed tabletop
- Fixed, inverted or mobile installations
- Mil-Spec connectors
- Tough metal housing and gearing for durability in harsh environments
- Thermostatically controlled heaters standard
- Connector (base): 17-Pin
- Stainless steel base
- Heavy-duty tabletop

Sensor Integration

- Multi-Spectrum cameras
- Thermal imagers
- IR and visible illuminators
- Laser range finders
- Communication antennas
- Acoustic devices

SPECIFICATIONS

Part Number	Configuration	Load Mount/ Interface	Nominal Voltage Vdc	Communication Interface	Control Protocol	Rotation Speeds*		Rotation Range		Repeatability Pan and Tilt
						Pan	Tilt	Pan	Tilt	
7-45510A	IC	FT	24	Serial	PTCR-20	1 - 8°/sec.	1 - 4.5 °/sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-45514	IC	FT	24	Serial	PTCR-20	1 - 8°/sec.	2 - 8 °/sec.	435°(± 217.5°)	180°(± 90°)	0.25°
7-55510	IC	FT	24	Serial	PTCR-90	1 - 8°/sec.	1 - 3 °/sec.	435°(± 217.5°)	180°(± 90°)	0.05°

IC - Classic / Brush Motor, ICS - Classic / Sentry (Stepper)

Serial: RS-232, RS-422, IP: Ethernet TCP/IP

FT – Formed Tabletop

* At stated load capacity and nominal voltage

QPT-200 and 500 IC Series

200/500 Series ICMS Model

PRODUCT OVERVIEW

The QPT 200 and 500 Series of pan and tilts are rugged and durable enough for virtually any environment. The QPT-200 and QPT-500 can handle payloads up to 200 or 500 lb-ft of torque, respectively, making each suitable for a wide range of sensors.

Integrated Control (IC) units can communicate via networked PC or separate controller. The Sentry line takes our products to the next level by integrating stepper motors into the design for higher accuracy and speed control.

PRODUCT SPECIFICATIONS

Available Features

- Heavy duty payloads up to 200 and 500 lb-ft
- Digital Serial Integrated Control (IC) models
- Internal wire tabletop for pass-through or IC sensor wiring on certain models
- Fixed, inverted or mobile installations
- Mil-Spec connectors
- Tough metal housing and gearing for durability in harsh environments
- Marine configuration that meets IP-67 standard
- Models available with RF pass-through connectivity (RF rotary joint, 1-3 channels)
- Connector (base): 43-Pin
- Connector (tilt axis): 26-Soc (1 or 4)

Sensor Integration

- Multi-Spectrum cameras
- Thermal imagers
- IR and visible illuminators
- Laser range finders
- Communication antennas
- Acoustic devices

SPECIFICATIONS

Part Number	Configuration	Load Mount/ Interface	Nominal Voltage Vdc	Communication Interface	Control Protocol	Rotation Speeds*		Rotation Range		Repeatability Pan & Tilt
						Pan	Tilt	Pan	Tilt	
QPT-200 IC Series										
7-4100A	ICS	FT-A	24	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	420°(± 210°)	180°(± 90°)	0.1°
7-4100B	ICS	FT-B	24	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	420°(± 210°)	180°(± 90°)	0.1°
7-4200A	ICMS	FT-A	24	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	420°(± 210°)	180°(± 90°)	0.1°
7-4200B	ICMS	FT-B	24	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	420°(± 210°)	180°(± 90°)	0.1°
7-42000	ICMS	Universal	24	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	420°(± 210°)	180°(± 90°)	0.1°
7-4300A	ICMS CR	FT-A	24	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°
7-4300B	ICMS CR	FT-B	24	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°
7-43000	ICMS CR	Universal	24	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°
QPT-500 IC Series										
7-4400A	ICS	FT-A	48	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	420°(± 210°)	180°(± 90°)	0.1°
7-4400B	ICS	FT-B	48	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	420°(± 210°)	180°(± 90°)	0.1°
7-4500A	ICMS	FT-A	48	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	420°(± 210°)	180°(± 90°)	0.1°
7-4500B	ICMS	FT-B	48	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	420°(± 210°)	180°(± 90°)	0.1°
7-45000	ICMS	Universal	48	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	420°(± 210°)	180°(± 90°)	0.1°
7-4600A	ICMS CR	FT-A	48	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°
7-4600B	ICMS CR	FT-B	48	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°
7-46000	ICMS CR	Universal	48	Serial / IP	PTCR-96/Pelco D	.001 - 20°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°

ICM - Marine / Brush Motor, ICMS - Marine Sentry (Stepper), CR - Continuous Rotation, HS - High Speed

Serial: RS-232, RS-422, IP: Ethernet TCP/IP

FT – Formed Tabletop

* At stated load capacity and nominal voltage

Analog Series

QPT-90 (Shown)

PRODUCT OVERVIEW

The Moog line of analog pan and tilts are ideal for applications where electronic control is not needed or available. The analog series offers a cost-efficient solution to first responders, emergency and broadcast vehicles.

We offer a full range of rack-mountable controllers to complement all analog series pan and tilts.

PRODUCT SPECIFICATIONS

Available Features

- All AC models have a 14-pin base connector
- All Vdc models have a 17-pin base connector
- All analog units are formed tabletop

SPECIFICATIONS

Part Number	Configuration	Special Features	Suitable Controllers	Voltage		Rotation Speeds		Rotation Range		Special Notes
				Vdc	AC	Pan	Tilt	Pan	Tilt	
QPT-20 Analog										
7-07000-0DD	Analog HS	Pots, Heater	C207, C207HT, C337, C337HT, C437	24	–	1 - 35°/ sec.	1 - 12°/ sec.	435°(± 217.5°)	180°(± 90°)	–
7-07045-D *	Analog	N/A	C151111	–	24	1 - 8°/ sec.	1 - 3°/ sec.	435°(± 217.5°)	180°(± 90°)	–
7-07050-D **	Analog	Pots, No Heater	C107, C327, C427	12	–	1 - 23°/ sec.	1 - 12°/ sec.	435°(± 217.5°)	180°(± 90°)	–
7-07051-D	Analog	Pots, Heater	C107, C327, C427	12	–	1 - 23°/ sec.	1 - 12°/ sec.	435°(± 217.5°)	180°(± 90°)	–
QPT-50 Analog										
7-62120-MWS	Analog	Pots	C107, C327, C427	12	–	0.5 - 8°/sec.	0.1 - 3 °/sec.	435°(± 217.5°)	180°(± 90°)	–
QPT-90 Analog										
7-58000-4H	Analog	Pots	C173421	–	115	1 - 8°/sec.	1 - 3°/sec.	435°(± 217.5°)	180°(± 90°)	Restraining Cable
7-59005-2G	Analog	Pots	C207, C337, C437	24	–	1 - 8°/sec.	1 - 4.5°/sec.	435°(± 217.5°)	180°(± 90°)	Restraining Cable
7-59120-F	Analog	Stow, No Pots	C102, C322, C422	12	–	1 - 10°/sec.	1 - 3°/sec.	435°(± 217.5°)	180°(± 90°)	Restraining Cable
7-59126-SW	Analog	Dual Stow, No Pots	C102, C322, C422	12	–	1 - 10°/sec.	1 - 3°/sec.	435°(± 217.5°)	180°(± 90°)	Restraining Cable
7-59206-6F	Analog	Stow, No Pots	C167212, C177212	115	–	1 - 8°/sec.	1 - 3°/sec.	435°(± 217.5°)	180°(± 90°)	Restraining Cable
7-59207-5F	Analog	Pots	C177412	115	–	1 - 8°/sec.	1 - 3°/sec.	435°(± 217.5°)	180°(± 90°)	Restraining Cable
QPT-130 Analog										
7-59510	Analog	Pots, Heater, Stow	C177422	115	–	1 - 8°/sec.	1 - 3°/sec.	435°(± 217.5°)	180°(± 90°)	Stainless Steel Base
QPT-200 Analog										
7-56050-1B	Analog	Pots, Heater	C177432	115	–	1 - 10°/sec.	1 - 3°/sec.	350° (+/-175°)	180°(± 90°)	–
QPT-500 Analog										
7-60056-2B	Analog	Pots, Heater	C177432	115	–	1 - 10°/sec.	1 - 3°/sec.	350° (+/-175°)	180°(± 90°)	–

SPECIAL CONFIGURATIONS: * No feedback ** Heaters optional

CR – Contiuous rotation (slip ring) HS – High Speed Pots – Potentiometer Feedback

ANALOG CONTROLLERS SPECIFICATIONS

Part Number	Description	Pan and Tilt	Joystick	Rack-mount	Connector	Voltage Input	Output		Meters	
							DC	AC	Azimuth	Elevation
12Vdc Output										
C124212	Controller, 12Vdc/12Vdc Prop. Speed, No Meters	20/50	Joystick	1/2 Rack	17 - Pin	12Vdc	12	–	–	–
24Vac Output										
C151111	Controller 115Vac/24Vac, Non-variable Spd.	20/90	Joystick	Tabletop	17 - Pin	115 / 120Vac	–	24		
C173431	Controller 115-240Vac/24/120Vac, Non-variable Spd. ,Meters	200/500	Joystick	Full	17 - Pin	120 / 240Vac	–	24 / 120	X	X
C162421	Controller 240Vac/115Vac, Non-variable Spd., A/Z Meters	90/130	Joystick	Full	17 - Pin	240Vac	–	115	X	X
C173421	Controller 120-240Vac/24 / 120Vac, Non variable Spd.A/Z Meters	90/130	Joystick	Full	17 - Pin	120 / 240Vac	–	24 / 120	X	X
115Vdc Output										
C167212	Controller 220-240Vac/115Vdc, Prop Speed, No Meters	90/130	Joystick Plug	1/2 Rack	17 - Pin	220 - 240Vdc	115	–		
C157422	Controller 120Vac/115Vdc, Prop Speed, A/Z Meters	90/130	Joystick	Full	17 - Pin	120Vdc	115	–	X	X
C167422	Controller 220-240Vac/115Vdc, Prop Speed, A/Z Meters	90/130	Joystick	Full	17 - Pin	220 - 240Vdc	115	–	X	X
C167432	Controller 220-240Vac/115Vdc, Prop Speed, A/Z Meters	200/500	Joystick	Full	17 - Pin	220 - 240Vdc	115	–	X	X
C177212	Controller 115/220-240Vac/115Vdc, Prop Speed	200/500	Joystick	1/2 Rack	17 - Pin	115 / 220-240Vdc	115	–		
C177422	Controller 120Vac/115Vdc, Prop Speed, A/Z Meters	90/130	Joystick	Full	17 - Pin	115 / 220Vdc	115	–	X	X
C177432	Controller 120Vac/115Vdc, Prop Speed, A/Z Meters	200/500	Joystick	Full	17 - Pin	115 / 220Vdc	115	–	X	X

ANALOG PAN & TILT TO CONTROLLER CABLES SPECIFICATIONS

Part Number	Description	Pan & Tilt	Connector		Voltage (Max.)		Standard Lengths (in feet)
			Pan & Tilt	Controller	DC	AC	
6-19247-1.5	Cable, Analog, w/ 17 Socket / Pin Plugs, , 1.5ft.	20/50/90/130/200	17- Socket	17 - Pin	115	115	1.5, 10, 25, 100, 25, 100, 125, 150, 200, 250

QPT-RF Series

PRODUCT OVERVIEW

The QPT-RF Series of pan and tilts employ RF Rotary Joint technology for management of radio frequency signals. These rugged antenna positioners support a wide range of antenna sizes, frequency bands, and up to 3 isolated channels of RF pass-through signals. Auxiliary sensor loads, such as visible and/or thermal cameras, can be mounted with the antenna and are completely supported. Applications include: UAV tracking/telemetry, satellite communications, radar, GPS, and many others.

All RF, video, power, and control data cables are pass-through to eliminate cables in motion with the pan and tilt making cable management simple, neat, and safe. IP, RS-232 and RS-422, Pelco D, serial control of the pan and tilt, and sensors are standard. Serial data and lens controls provide plug and play camera load interfaces.

PRODUCT SPECIFICATIONS

Available Features

- Supports antennas from man-portable up to 3-meters.
- Mulitiple RF channel pass-through from DC up to 18 GHZ.
- Auxilliary payload support (cameras, laser range finders, laser designator, GPS, etc.)
- Network ready
- Connector (base): 43-Pin
- Connector (tilt axis): 26-Soc
- Connector (RF) all N-Type

Sensor Integration

- Antennas
- Multi–Spectrum cameras
- Thermal imagers
- IR and visible illuminators
- Laser range finders

SPECIFICATIONS

Part Number	Configuration / Channel	Load Mount/ Interface	# RF Channels	Nominal Voltage Vdc	Communication Interface	Control Protocol	Rotation Speeds*		Rotation Range		Repeatability Pan & Tilt
							Pan	Tilt	Pan	Tilt	
QPT-50 (lb-ft torque)											
7-61BRFA-18G	IC -RF I 18GHz/Single	FT-A	1	24	Serial / IP	PTCR-20/Pelco D	1.7 - 25°/sec.	0.3 - 7°/sec.	Continuous	180°(± 90°)	0.25°
7-61BRFB-18G	IC -RF I 18GHz/Single	FT-B	1	24	Serial / IP	PTCR-20/Pelco D	1.7 - 25°/sec.	0.3 - 7°/sec.	Continuous	180°(± 90°)	0.25°
7-61RFA-18G	ICMS -RF I 18GHz/Single	FT-A	1	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	Continuous	180°(± 90°)	0.05°
7-61RFB-18G	ICMS -RF I 18GHz/Single	FT-B	1	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	Continuous	180°(± 90°)	0.05°
7-62RFA-1816G	ICMS -RF II 18/16GHz HBW/ Dual	FT-A	2	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	Continuous	180°(± 90°)	0.05°
7-62RFB-1816G	ICMS -RF II 18/16GHz HBW/Dual	FT-B	2	24	Serial / IP	PTCR-96/Pelco D	.005 - 50°/sec.	.005 - 12°/sec.	Continuous	180°(± 90°)	0.05°
QPT-90 (lb-ft torque)											
7-71RFA-18G	ICMS -RF I 18GHz/Single	FT-A	1	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°
7-71RFB-18G	ICMS -RF I 18GHz/Single	FT-B	1	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°
7-72RFA-184G	ICMS -RF II 18/4GHz HP/Dual	FT-A	2	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°
7-72RFB-184G	ICMS -RF II 18/4GHz HP/Dual	FT-B	2	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°
7-73RFA-333G	ICMS -RF III 3/3/3GHz/3 Channel	FT-A	3	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°
7-73RFB-333G	ICMS -RF III 3/3/3GHz/3 Channel	FT-B	3	24	Serial / IP	PTCR-96/Pelco D	.005 - 25°/sec.	.005 - 8°/sec.	Continuous	180°(± 90°)	0.05°
QPT-500 (lb-ft torque)											
7-51RFU-18G	ICMS -RF I 18GHz/Single	Univ.	1	48	Serial / IP	PTCR-96/Pelco D	.001 - 20.°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°
7-52RFA-1816G	ICMS -RF II 18/16GHz HBW/Dual	FT-A	2	48	Serial / IP	PTCR-96/Pelco D	.001 - 20.°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°
7-52RFB-1816G	ICMS -RF II 18/16GHz HBW/Dual	FT-B	2	48	Serial / IP	PTCR-96/Pelco D	.001 - 20.°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°
7-52RFU-184G	ICMS -RF II 18/4GHz HP/Dual	Univ.	2	48	Serial / IP	PTCR-96/Pelco D	.001 - 20.°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°
7-52RFU-1816G	ICMS -RF II 18/16GHz HBW/Dual	Univ.	2	48	Serial / IP	PTCR-96/Pelco D	.001 - 20.°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°
7-53RFU-333G	ICMS -RF III 3/3/3GHz/3 Channel	Univ.	3	48	Serial / IP	PTCR-96/Pelco D	.001 - 20.°/sec	.001 - 4°/sec.	Continuous	180°(± 90°)	0.1°

ICM - Marine / Brush Motor, ICMS - Marine Sentry (Stepper), CR - Continuous Rotation, HS - High Speed

Serial: RS-232, RS-422, IP: Ethernet TCP/IP

FT – Formed Tabletop

* At stated load capacity and nominal voltage

Mercury Series

PRODUCT OVERVIEW

Moog presents the Mercury Positioner which is certified to hold payloads up to 50lbs (mobile) and 75lbs (fixed), and withstands HMMWV Shock and Vibration Standards, making it ideal for applications in harsh environments and rugged terrain.

PRODUCT SPECIFICATIONS

Available Features

- Reliable, high level of accuracy
- Extremely ruggedized, built to withstand extreme environments
- Networked IP control, 2/4 channel available
- Continuous 360° rotation
- Networked IP control
- Stabilized configuration available
- MIL-STD-810, salt/fog
- Enclosure IP66
- Payload weight – fixed 75 lbs
- Payload weight – mobile 50 lbs
- Choice of camera systems
- Easy integration with open source protocol
- Connector (tilt): Two or four 26-soc

SPECIFICATIONS

Part Number	Configuration	Load Mount/ Interface	Nominal Voltage Vdc	Communication Interface	Control Protocol	Rotation Speeds*		Rotation Range		Repeatability Pan & Tilt
						Pan	Tilt	Pan	Tilt	
7-35000-MWS	ICMS CR (Mercury)	Universal	24	Serial / IP	PTCR-96 / Pelco D	.005 - 100°/sec	.005 - 100°/sec	Continuous	180°(± 90°)	0.05°

ICM - Marine / Brush Motor, ICMS - Marine Sentry (Stepper), CR - Continuous Rotation, HS - High Speed

Serial: RS-232, RS-422, IP: Ethernet TCP/IP

* Maximum speed depends upon payload configuration

MODELS WITH CAMERA SPECIFICATIONS

Models	Description
MVTS-9LC225-90375-MWS	Dual Visible/Thermal Camera System with 640 x 480 Thermal Imager 25-225mm with Continuous Zoom lens and Daylight Imager with 15-375mm lens
MVTS-9LC225-90750-MWS	Dual Visible/Thermal Camera System with 640 x 480 Thermal Imager 25-225mm with Continuous Zoom lens and Daylight Imager with 30-750mm lens

Low Profile Yoke

Low Profile Yoke

PRODUCT OVERVIEW

The low profile yoke is a light weight positioner and controller designed to remotely operate thermal and/or visible cameras mounted on vehicles.

Other sensors, such as laser range finders or illuminators, can also be mounted and deployed. Simple user interface and rapid "return to home" automatic positioning provides the quick response a driver requires in emergency situations. A simple base mount makes deployment or relocation fast and easy. The low profile yoke positioner is highly durable, yet extremely reliable in even the most harsh environments. It has been certified to withstand pressure change, extreme temperatures, exposure to solar radiation, humidity, dust, and sand penetration, military ground shock, and vibration levels and submission.

PRODUCT SPECIFICATIONS

Available Features

- Light weight and compact for mobile, inverted, or stationary use.
- Operate remotely with joystick controller
- Easily mount and remotely operate cameras, illuminators, and other sensors
- Rapid automatic "return to home" function
- Fast deployment or relocation
- Highly durable, extremely reliable in harsh environments
- Certified to military environmental test criteria
- Mil-Spec connectors
- Tough metal housing and gearing for durability in harsh environments
- Marine configuration that meets IP-67 standards
- Thermostatically controlled heaters standard

Sensor Integration

- Multi-Spectrum cameras
- Thermal imagers
- IR and visible illuminators
- Laser range finders

PRODUCT COMPARISON

Characteristics	LPPT	CG-B	CG-M	CG-P*
Azimuth Range:	± 180°	Continuous	Continuous	Continuous
Elevation Range:	± 30°	±90°	± 40° (as shown – extended range dependant on payload)	±90°
Azimuth Speed:	45°/ sec Max.	.5 – 80°/sec	.5 – 100°/sec	.05 to 100°/sec
Elevation Speed:	15°/sec Max.	.5 – 80 °/sec	.5 – 80°/sec	.05 to 100°/sec
Repeatability:	0.25°	0.30°	0.30°	0.1°
Power:	16 – 32 Vdc	16 – 32 Vdc	24 Vdc	48 Vdc
No. of Payloads:	1	1	4	4
Slipring:	No	Yes	Yes. Includes four port Gigabit switch.	Yes. Includes two channels of 1 Gbps ethernet.

* This product is controlled under the International Traffic in Arms Regulations (ITAR). This product cannot be exported without first complying with all the requirements of the ITAR (22 CFR 120-130), USML Category VII (g), including requirements for obtaining specific export authority from the United States Department of State.

LPPT

CG-B

CG-M

CG-P

Taurus/Taurus-R Series

Taurus™

Taurus-R™

PRODUCT OVERVIEW

Designed and built for the harshest mobile or stationary environments, the Taurus™ enables simple integration into existing systems and various platform mounting configurations. The Taurus-R™ supports radar or other payloads that can be positioned independently from the pan and tilt.

PRODUCT SPECIFICATIONS

Available Features

- Balanced payload stationary: up to 300 lbs total, balanced on-axis, up to 150 lbs per side
- Balanced payload mobile: up to 150 lbs total, balanced on-axis, up to 75 lbs per side
- Stationary or mobile installations
- Mil-Spec connectors
- Marine configuration that meets IP-67 standard
- Universal wiring for sensor integration
- Thermostatically controlled heaters
- Connector (Base): 43-Pin
- Connector (tilt axis): 26-Soc
- RF pass-through turret
- 4 payload connectors (2 per side)

Sensor Integration

- Radar antenna systems
- Multi-Spectrum cameras
- IR and visible illuminators
- Laser range finders
- Communication antennas
- Acoustic devices

SPECIFICATIONS

Part Number	Configuration	Load Mount/ Interface	Nominal Voltage Vdc	Communication Interface	Control Protocol	Rotation Speeds*		Rotation Range		Repeatability Pan & Tilt
						Pan	Tilt	Pan	Tilt	
7-53400	ICMS CR (Taurus)	Universal	24	Serial / IP	PTCR-96 / Pelco D	.005 - 30°/sec	.005 - 30°/sec.	Continuous	180°(± 90°)	0.05°
7-53450	ICMS CR (Taurus-R)	Universal	24	Serial / IP	PTCR-96 / Pelco D	.005 - 30°/sec	.005 - 30°/sec.	Continuous	180°(± 90°)	0.05°
7-54800	ICMS CR HS (Taurus)	Universal	48	Serial / IP	PTCR-96 / Pelco D	.005 - 45°/sec	.005 - 45°/sec.	Continuous	180°(± 90°)	0.05°
7-54850	ICMS CR HS (Taurus-R)	Universal	48	Serial / IP	PTCR-96 / Pelco D	.005 - 45°/sec	.005 - 45°/sec.	Continuous	180°(± 90°)	0.05°

ICM - Marine / Brush Motor, ICMS - Marine Sentry (Stepper), CR - Continuous Rotation, HS - High Speed

Serial: RS-232, RS-422, IP: Ethernet TCP/IP

* Maximum speed depends upon payload configuration

Furnace

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Accessory

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Furnace HD Thermal Camera

PRODUCT OVERVIEW

Moog IP Furnace Cameras for industrial applications come in a wide range of resolutions from VGA to 5 megapixels. They are equipped with a CS-mount with DC iris drive as a standard feature, so you can choose from a wide range of camera lenses and integrate the most suitable one for your application.

An ultra-compact, all-metal housing with a 4.3" x 1.1" x 1.7" (109.7 x 29 x 44mm) size and a weight of only 0.5 lb. (210 g.) makes these the smallest IP cameras in their class. These characteristics contribute to their flexibility and ease of installation.

All components used in Moog IP Furnace Cameras are specifically selected to form a high quality, "Made in Germany" product. Please contact us for information about accessories available for Moog IP Furnace Cameras. We offer a wide variety of lenses and outdoor housings.

PRODUCT SPECIFICATIONS

Available Features

- Multi-encoding
- Multi-streaming
- Scaling and AOI feature
- Progressive Scan
- Ideal image quality

SPECIFICATIONS	
FK-N-CF-1313-2-IQ	
Image Sensor:	Progressive Scan CCD
Effective Pixels (H x V):	1280 x 960
Eff. Optical Format:	1/3"
Frame Rate (Max.): Full Resolution:	MJPEG MPEG-4 H.264 30fps 30fps 30fps
Pixel Size:	3.75 µm x 3.75 µm
Day / Night:	Removable IR-Cut Filter
Minimum Illumination:	Color: 0.34 lux (F1.2/33ms), Day / Night 0 lux (With IR Illumination)
Lens:	CS-mount, DC iris drive (lens not included)
Image Settings:	Automatic gain, exposure area, backlight compensation, white balance, electronic shutter, 180° Image rotation, anti-flicker, electronic PTZ via AOI (API), text overlay, privacy masks, motion detection
Resolution:	From 160 x 120 to 1280 x 960 (free scaling), 4:3, 16:9, multiple Areas af Interest (AOis)
Video Compression:	Motion JPEG: multiple compression levels • MPEG-4: SP (Level 3) • H.264 (MPEG-4 AVC): high profile levels up to 5.0
Video Streaming:	Multi-encoding and multi-streaming for MJPEG, H.264, and MPEG-4, VBR and CBR for MJPEG, MPEG-4, and H.264, multicast and unicast
Alarm Management:	Ring buffer for pre and post alarm • Events triggered by motion detection, or external input • Image upload over FTP, e-mail, or HITP
Protocols:	TCP / IP, HTTP, UDP, FTP, ICMP, ARP, DHCP, NTP, RTP, RTSP, RTCP, SMTP, IGMP, ZEROCONF, QoS Layer 3
Processor / Memory:	Multimedia VIdeo Processor, FPGA, 256 MB RAM,32 MB Flash
Power:	PoE (Power over Ethernet IEEE 802.3af Class 2) or 7 to 24Vdc, power consumption is 4 W Max. at 12Vdc
Connectors:	RJ-45 connector for 10 / 100 Base-T Ethernet, full or half duplex 8 pin terminal for DC power, digital I/O and RS-485
Operating Conditions:	0º to 50°C (32°F to 122°F), < 90 % relative humidity (non-condensing)
Standards:	DIN EN 50130-4, FCC Class B,CE, RoHS
Housing:	4.3" x 1.1" x 1.7" (109.7 x 29 x 44mm) (full metal casing)
Weight:	-0.5 lbs. (-210 g.)

Furnace Standard Definition Camera

PRODUCT OVERVIEW

The FK-CF-PTZ-3612 has been designed for industries that need to control / monitor high temperature areas. Special CCTV cameras are used for these challenging production environments.

Different applications in the steel, glass, and cement industries require sturdy, vibration and shock resistant cameras which can withstand harsh industrial operating environments, yet be sensitive enough to record color video images faithfully.

In our FK-CF-PTZ-3612 Series, various combustion chamber color cameras are available. They are characterized by a set of special technical and design features.

The cameras use Digital Signal Processing (DSP) and have different ways of synchronizing. Protective casings are incorporated in the SIG series. The protective housing is made of 1-wire technology on the back and has only a single 10-pin MIL-standard connector.

FK-CF-PTZ-3612 Series of cameras is ideal for areas requiring good quality color reproduction under extreme lighting conditions.

PRODUCT SPECIFICATIONS

Available Features

- Built-in test pattern generator
- Data interface board to convert RS-232 to RS-422 available
- Digital Signal Processing (DSP)
- Graphic User Interface (GUI)
- RS-232C interface
- Electronic Pan, Tilt, Zoom
- DC Iris Control / AI

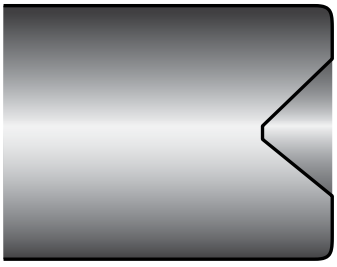
SPECIFICATIONS		
	FK-CF-PTZ-3612-2-IQ-R1	FK-CF-PTZ-3613-2-IQ-R1
Image Sensor:	1/2" interline transfer CCD	1/3" interline transfer CCD
Picture Elements (H x V):	PAL: 752 X 582 pixels • NTSC: 768 x 494 pixels	PAL: 752 x 582 pixels • NTSC: 768 x 494 pixels
TV System:	PAL:625 lines • NTSC: 460 line	PAL: 625 lines • NTSC: 460 lines
Resolution (H):	> 450 lines	> 450 lines
Sensitivity:	3 lux (100% video)	3 lux (100% video)
S / N Ratio:	> 48dB	> 48dB
Synchronization:	Internal quartz	internal quartz
Blacklight Compensation:	Independently programmable	Independently programmable
AGC:	0-32dB	0-32dB
Gamma Correction:	10 steps selectable	10 steps selectable
Automatic White Balance:	Automatic / Manual. 2500-9500 K	Automatic / Manual. 2500-9500 K
Electronic Shutter:	PAL: 1/50-1/50,000 sec, NTSC: 1/60-1/50,000 sec in nine steps	PAL: 1/50-1/50,000 sec, NTSC: 1/60-1/50,000 sec in nine steps
Video Out:	Composite 1.0Vp-p • 75 Ohm / BNC • S-video • Y: 1.0V/C: 0.286 Vp-p	Composite 1.0 Vp-p • 75 Ohm / BNC • S-Video • Y: 1.0V/C: 0.286 Vp-p
On-Screen Menu Options:	All camera parameters pan, tilt, zoom	All camera parameters pan, tilt, zoom
RS-232 Interface:	12 pin. HR10-10R-12PC	12 pin. HR10-10R-12PC
Operation Voltage:	12Vdc	12Vdc
Current Consumption:	Approx. 4.2 W	Approx. 4.2 W
Lens Mount:	CS-Mount	CS-Mount
Lens Control:	Video (optional DC)	Video (optional DC)
Operating:	-20ºC to 50ºC (-4ºF to 122ºF)	-20ºC to 50ºC (-4ºF to 122ºF)
Deminsions (H x W x D):	About 1" x 1" x 2.5" (25.4 x 25.4 x 63.5mm)	About 1" x 1" x 2.5" (25.4 x 25.4 x 63.5mm)
Weight:	Approx. 0.2 lb. (83 g.)	Approx. 0.2 lb. (83 g.)

Furnace Probe Standard Definition

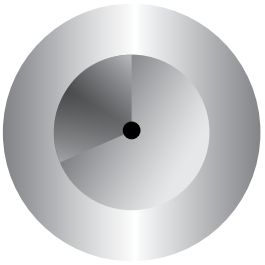
SPECIAL LENGTH AND DIAMETERS ON REQUEST

Axial	Radial	Diameter	Standard length	Length on request
FRS-076	FRS-R-076	76mm	720 / 1142mm	400 / 6000mm
FRS-208	FRS-R-208	104mm	720 / 1142mm	400 / 6000mm
FRS-064	FRS-R-064	64mm	720 / 1142mm	200 / 2000mm

AXIAL OPENING

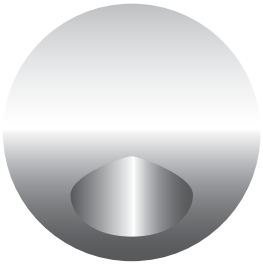


Sectional Drawing

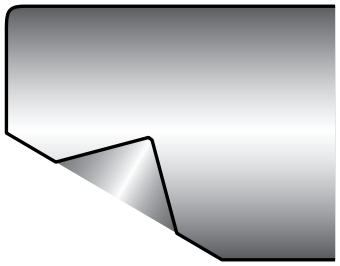


Front View

RADIAL OPENING



Front View



Sectional Drawing

COMBUSTION CHAMBER PROBES

The CCTV cameras used in high temperature areas are installed in water/air cooled combustion chamber probes to protect them from the surrounding temperatures. Different furnace types and wall thicknesses, different angles of view and the nature of the image recording desired each help define a series of special requirements. In addition to standard lengths and diameters, our combustion chamber probes offer:

- Integrated illumination in the case of problematic light conditions
- Rotatable combustion chamber probes
- Axial or radial viewing openings
- Probes with a twin viewing opening
- Probe casings made from stainless steel, titanium, special alloys or special coatings
- Probe lengths up to 10 m
- Explosion-proof probes in accordance with ATEX guidelines

COOLING WATER

- Cooling water is pumped between the outer and inner wall of the probe casing (forced circulation principle) which dissipates the surrounding temperature.

COMPRESSED AIR / INERT GAS

- Compressed air is blown into the probes in order to cool the viewing opening and keep it clear of debris.

Radial

Dualview

Axial

Furnace Probe Integrated Lighting

PRODUCT OVERVIEW

With the new FRS-LI-208 Series combustion chamber probes, Moog Inc. is extending its product offering for high-temperature range applications.

The newly developed special probes with unchanged dimensions, compared to the standard furnace probes, have an integrated lighting unit which sets new standards in image quality for hot-dip galvanizing. Equipped with controllable luminous intensity on the probe tip, the models available in axial and radial implementation, supply sufficient ambient light for an exceptional visualization of the production sequence.

The additional use of viewing windows and external floodlights becomes unnecessary with this innovative design.

PRODUCT SPECIFICATIONS

Available Features

- Furnace probe with integrated lighting
- Furnace probe cameras in different versions
- Radial and axial models available
- Digital / optical zoom lenses
- Applicable up to 2,400°C (4,352°F)

STANDARD VERSIONS*

Part Numbers	Type	Length	Usable Installation Length	Diameter
FRS-LI-208-550	Axial	21.7" (550mm)	18.9" (480mm)	4.1" (104mm)
FRS-LI-208-800	Axial	31.5" (800mm)	28.7" (730mm)	4.1" (104mm)
FRS-R70-LI-208-1100	70º radial	43.3" (1100mm)	40.6" (1030mm)	4.1" (104mm)

* Other lengths on request

SYSTEM PARTS**

FK-LI-CF-PTZ-3612-2-78-IQ:	1/2" Furnace DSP-Color camera with automatic iris control: DC / AI for FRS-LI-208-Series
General:	Digital zoom, pan, scroll, rotate, freeze, with automatic iris control: DC / AI
Scanning Area:	0.3" x 0.2" (6.4 x 4.8mm)
Picture Elements (H x V):	752 x 582
Sensitivity:	3lux (gain minimum)
Synchronisation:	625 lines CCIR / PAL / [NTSC]
SN Ratio:	48 dB (22 dB at AGC 32 dB)
Electronic Shutter:	Electronic shutter adjustable from 1/50- 1/50,000/sec., in 9 steps
Integration:	2 to 510 field's available using menu selection
Video Output:	PAL / Composite / S-Video / [NTSC]
White Balance:	Manually / automatic 2,500 - 9,500 K, back light control
Switchable:	Color bars, color, monochrome
AGC:	32dB
Serial Communication:	RS-232C, 19,200 baud
Connectors:	One cable connector provides power, video and control
Operating Temperature:	-20ºC to 70ºC (-4ºF to 158ºF)
Power Requirement:	12Vdc

** Other camera types (e.g. IP version) available

FK-G-N-L-320-250-L

PRODUCT OVERVIEW

Camera Snout Housing with Direct Nitrogen Cooling Installed with Camera, Lens and Lighting

PRODUCT SPECIFICATIONS

Available Features

- Controllable light intensity
- Complete build in flange ND-200 to adjust to already existing flange at site

SYSTEM COMPONENTS	
FK-CM-PTZ-3613	
1/3" DSP-Color / Monochrome-CCD-Camera with Automatic Iris Control	
Sensor:	1/3" CCD-Sensor
Scanning Area:	0.2" x 0.1" (4.8 x 3.6mm)
Picture Elements (H x V):	752 x 582
Sensitivity:	3 lux (gain minimum)
Resolution (H x V):	450 lines x 415 lines
Scanning:	625 lines CCIR, PAL / NTSC
Signal / Noise Ratio:	48dB (22dB at AGC 32dB)
Electronic Shutter:	Adjustable from 1/50 - 1/50 000/sec., In 9 steps
Integration:	2 to 510 fields available using menu selection, with option "picture freeze"
Video Output:	PAL / Composite, S-Video over AUX-Connector only by DC-Lenses
White Balance:	Manual / automatic 2.500 - 9.500 K
Back Light Control:	Digital zoom, pan, scroll, rotate, freeze
Switchable:	Color bars, color, monochrome
AGC:	32dB
Serial Communications:	RS-232C, 19.200 baud
One Cable Connector:	Provides power, video and control
Power Requirement:	12Vdc
FRO-13-ZF-3307	
Special Zoom Lens	
Horizontal:	27° - 5°
Vertical:	20° - 4°
FC-Z-3307	
Focus Control For Zoom Lens with End Switch and Motorized to use the Function from Control Desk	
WUL-320-250-E	
Camera Protective Housing for Nitrogen Cooling System	
TBM-051	
Temperature Monitoring Element, Switch Point:	50°C (122°F)
Contact Function:	1 opener by increase of temperature with BUK-2-01-2-pin female connector, with AST-2-01-2-pin male connector, includes 9.8" (250mm) connecting cable
Controllable Light Intensity	
Complete Build in Flange Nd-200 to Adjust to Already Existing Flange at Site	

WU-3627 / WUW-3627

PRODUCT OVERVIEW

Water / Air-Cooled Dustproof Camera Protective Housing

PRODUCT SPECIFICATIONS

Available Features

- Exchangeable lens protecting tube

SPECIFICATIONS	
Material:	Stainless steel
Ambient Temperature:	1562°F
Protecting Class:	IP65
Fixing:	Guide plate
Water / Air Connection:	R 1/4”
Water Capacity:	0.3 liter

Control Cabinets

PRODUCT OVERVIEW

In order to supply coolant to the combustion chamber probes, Moog manufactures a series of control cabinets and media cabinets for preparing, regulating and monitoring the coolant media.

The control cabinets differ in terms of style and execution, determined by the range of the necessary monitoring and regulating equipment that is needed. Less equipment is needed for water-cooled protective camera housings and combustion chamber systems with a rigid installation. More equipment is needed with systems featuring automatic retraction devices.

TYPES OF CONTROL CABINETS

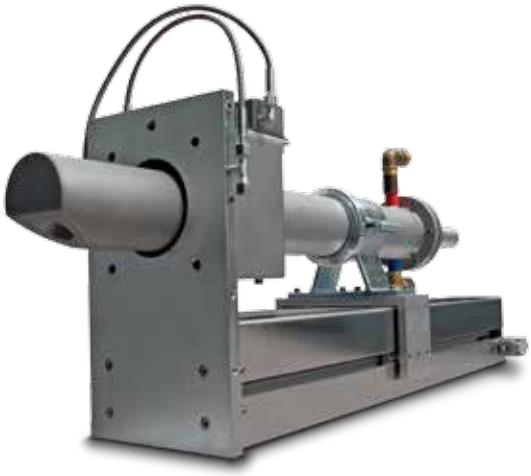
Water Monitoring Cabinets:
- For water-cooled protective camera housings

Air / Water Monitoring Cabinets:
- To control the coolants of water-cooled protective camera housings with a front retainer for air, and used in temperatures up to 850°C (1562°F)
- To control the coolants of fixed furnace probes used in temperatures up to 2400°C (4352°F)

Air / Water / Pneumatic Monitoring Cabinets:
- For combustion chamber probes with an automatic retraction device and a fully automatic water temperature regulating circuit which includes a microprocessor controlled status monitor. Windows XP or Vista operating systems

SPECIFICATIONS						
For the use of	SS-05-W-VA-02	SS-10-LW-VA-02	SS-15-LW-VA-02	SS-90-LWP-VA-02	SS-890-LWP-VA-SPS	Mounting Plate SSP-L-100.01
Protective Housings WUW:	•	•		•		•
Furnace Probes FRS:	•	•	•	•	•	•
Retraction Devices ASZ:				•	•	•
Control and Monitoring Functions						
Protective Housings WUW:	•	•	•	•	•	•
Air Circulation:		•	•	•	•	•
Pneumatic:				•	•	•
Wall Cabinet Sheet Steel, IP55 Rated, Color: Ral 7032						
Dimensions						
Width:	600	800	1000	1150	1150	800
Height:	600	800	800	1000	1000	600
Depth:	210	200	200	200	210	200
Air Circuit Internal Probe						
Pressure Reducer with Pressure Gauge:		•	•			
Pressure Controller: Modular System:				•	•	
Pressure Gauge for Indication of Pressure:				•	•	
Automatic Condensate Outflow Device:				•	•	
Air Circuit for External Jacket / Mounting Socket						
Pneumatic Control System Retraction Device System ASZ						
Valves: 5/2 Way, 2/2 Way:				•	•	•
Sound Absorber:				•	•	•
Servicing Unit:				•	•	
Electronic Air Pressure Monitor:		•	•	•	•	•
5 Ltr. Reserve Air Pressure Vessel:				•	•	•
Water Circulation						
Features						
Central Electronic Monitoring of Air, Water, Pneumatic Pressure with Programmable Logic Controller:					•	
Remote Control Possible, Switch: Probe In / Out:				•	•	
Illuminated Push Buttons for: Probe In / Out, Remote Control, Lamp Check:				•	•	

Retraction Devices (ASZ)



PRODUCT OVERVIEW

ASZ series retraction devices provide protection for furnace probes. In the case of operational faults, the probe is automatically brought out of the combustion chamber by the retraction device and the combustion chamber opening is sealed by a forced shutter. Through these measures, damage through overheating the probe, camera and lens is prevented. The manual control of the ASZ-800 enables quick and easy maintenance work on the installed furnace probe and furnace camera.

PRODUCT SPECIFICATIONS

Available Features

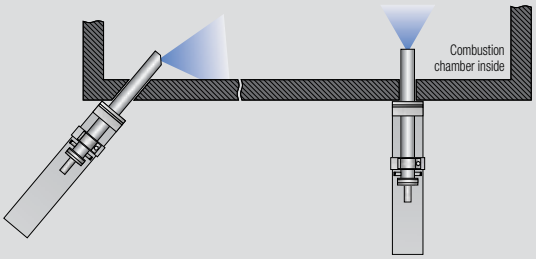
- Fully-automatic retraction of the furnace probe out of the combustion chamber in cases where there is a failure of coolant media, compressed air or electrical power
- Service-friendly, economical maintenance
- Retaining adjustment of the installation position and the angle of view
- Local operation control or remote control via touch panel
- Use of pneumatically controlled linear actuators
- Option: equipped with furnace probes with 360° rotation
- Variable installation depth of the probe, installation, independent of the position
- Forced shutter
- Corrosion resistant
- Different stroke lengths for different probe length available
- Designed for furnace probe diameters of 3” (76mm) and 4.1” (104mm)

The ASZ-800 Series Is Compatible With Moog:

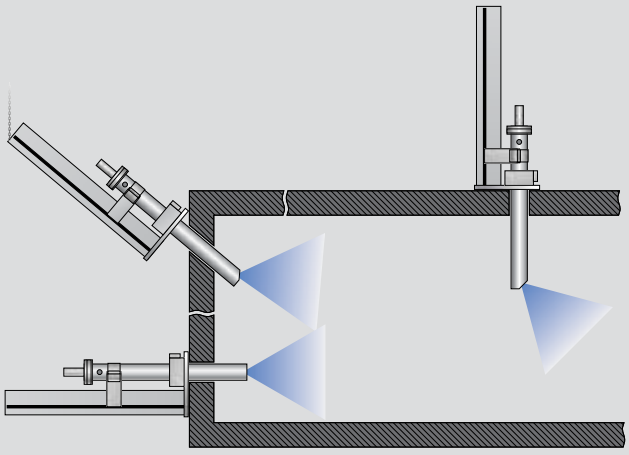
- Axial and radial furnace probes series FRS
- Illuminated furnace probes series FRS-LI
- Furnace probes with 360° rotation
- Furnace probes with double viewing aperture
- Furnace probes with integrated temperature measurement

INSTALLATION EXAMPLES

Top View



Side View



Combustion chamber inside

Tripods

With over 75 years of experience designing and manufacturing tripod supports and positioning systems, Moog has earned the reputation for unsurpassed performance and reliability. As the leader in instrument support and positioning systems we offer a variety of tripods, heads and accessories to meet the challenging demands of industrial, military and custom solutions.

FEATURES OVERVIEW:

- Payload capacity up to 400 lbs
- Alodine finished parts for resistance to harsh environments
- Adapters and heads for any sensor payload
- Rapid deployment

SENSOR INTEGRATION OVERVIEW:

- Antennas
- Radar and microwave dishes
- Cameras (Visible and Thermal)
- Laser range finders
- Communication Antennas
- Acoustic Devices

Tripods

Gibraltar Series. 52

Hercules Series. 53

Samson Series. 54

LTT - Lightweight Targeting Tripod. 55

Pegasus Series. 56

Gibraltar Series

PRODUCT OVERVIEW

When your application relies upon critical performance the Moog Gibraltar tripod series provides unsurpassed quality and reliability even in the most severe conditions.

PRODUCT SPECIFICATIONS

Available Features

- Payload capacity up to 400 lbs
- Anodized and powder coat finished parts for resistance to harsh environments
- Adapters and heads for any sensor payload
- Rapid deployment

Sensor Integration

- Antennas
- Radar and microwave dishes
- Cameras
- Laser range finders
- Communication antennas
- Acoustic devices

GIBRALTAR SPECIFICATIONS

Part Number	Description	Load Capacity		Height		Maximum Spread Diameter	Column Travel in. (cm)	Column O.D. in. (cm)	Leg Sections	Weight lbs. (kg)	Feet (Foot Plate)	Dimensions (Transport) in. (cm)
		lbs.	kg	Max in. (cm)	Min in. (cm)							
4-60450-0	Tripod, Load Capacity 400 lbs/181 kg, Max. Height 41 in/104cm, 4 in/10cm Foot Plate	400	181.8	41 (104)	25 (64.5)	55 (139.7)	N/A	N/A	2	22 (10)	FP4	14 x 30.5 (33.5 x 77)
4-60450-0A	Tripod, Load Capacity 400 lbs/181 kg, Max. Height 41 in/104cm, 6 in/15.2cm Foot Plate	400	181.8	41 (104)	25 (64.5)	55 (139.7)	N/A	N/A	2	22 (10)	FP6	14 x 30.5 (33.5 x 77)
4-60450-0D	Tripod, Load Capacity 400 lbs/181 kg, Max. Height 41 in/104cm - Color: Olive Drab	400	181.8	41 (104)	25 (64.5)	55 (139.7)	N/A	N/A	2	22 (10)	FP6	14 x 30.5 (33.5 x 77)
4-63020-8A *	Tripod, Elevator Column, Load Capacity 200 lbs/90 kg, Max. Height 85 in/215cm	200	91	85 (216)	41.5 (105)	81 (205)	18 (45)	2.375 (6.03)	2	42 (19.1)	FP6	17.5 x 49.5 (44x124)
4-63120-6A *	3/4 Tripod, Elevator Column, Load Capacity 200 lbs/90 kg, 65 in/165cm Max. Height	200	91	65 (165.1)	31.5 (80)	65 (165.1)	18 (45)	2.375 (6.03)	2	33.5 (151)	FP6	17.5 x 37 (44x93)

* All Column Diameters (O.D.) 2-3/8 inches/6.03cm

GIBRALTAR HEADS, RELAY AND GEARED TYPE SPECIFICATIONS

Part Number	Description	Load Capacity		L x W x H		Pan (deg)	Tilt (deg)	Type	Dimension in. (cm)	Control Arm	Camera Screw	Weight lbs. (kg)	Camera Plate in. (cm)
		lbs.	kg	in.	cm								
4-62050-6	Gibraltar Microwave Relay Head	330	149	6.5 x 6.5 x 7	16.5 x 16.5 x 17.8	360°	30° / 38°	Spanner Nut	2.75 - 12 (6.8)	Optional	0.5 - 13 Female	30 (13.6)	6.5 x 6.5 Fixed (16.5 x 16.5)
4-62051-4	Gibraltar Microwave Relay Head, with heavy duty locks	330	149	6.5 x 6.5 x 7	16.5 x 16.5 x 17.8	360°	30° / 38°	Spanner Nut	2.75 - 12 (6.8)	Optional	0.5 - 13 Female	30 (13.6)	6.5 x 6.5 Fixed (16.5 x 16.5)
4-62926-7	Instrument Geared Head, Calibrated AZ/EL, Load Capacity 200 lbs/90 kg	200	90	10 x 10 x 12	25.4 x 25.4 x 30.5	360°	53° / 67°	Post O.D.	1.75 (4.37)	None	3/8 - 16	21 (9.5)	8 x 10 Fixed (20 x 25.4)

* Price does include control arm 4-65330-9, has 1/2-13 female receptacle.

** Has 3/8-16 camera screws.

GIBRALTAR DOLLY AND CABLE GUARDS

Part Number	Description	Dimensions in. (cm)
4-56021	Dolly, 4 inches/10cm Wheels, for Herc/Gibr Tripods with 4 inches/10cm or 6 in/15.2cm Footplates	31 x 17.5 x 10.5 (78 x 44.5 x 26.6)

GIBRALTAR ACCESSORIES

Part Number	Description
4-55110-7	Spike Tips (Set of 3) for 4-60450-0
4-55860-7	Adapter, to fit 4-60450-0 and accept Hercules Heads
4-65330-9	Control Arm for 4-62050-6 and 4-62051-4, 14 in/35cm Long
4-65701-1	Wedge Plate Adapter
4-65740-9	Adapter, QTP 90, 130/150, 200, 500 to 4-60450-0
4-65850-6	Adapter to Mount 4-62926-7 Head to 4-60450-0 Tripod
4-65901-7	Wedge Plate Only
4-65911	Transit Adapter - Modified
4-69010-3	Adapter, fits Gibraltar Column, accepts Hercules Heads
4-69020-2	Adapter, Conversion, fits Hercules Tripods accepts Gibraltar Heads w/post mount

FOOT PLATE 6" (15.2cm) diam. w/ 5/8" spike hole - FP6"; 4" (10cm) diam. w/ 5/8" spike hole - FP4" Rubberball - Spike 1.5" diam. (3.8cm) - RBS1.5 Shovel Foot Small - SFS ; Shovel Foot Large - SFL

Hercules Series

PRODUCT OVERVIEW

Our Hercules tripod series is designed to withstand the harshest environments, supporting critical sensor payloads without sacrificing performance.

PRODUCT SPECIFICATIONS

Available Features

- Payload capacity up to 150 lbs
- Rack and pinion driven center column provides vertical height adjustments
- Anodized tubular construction guarantees years of reliable service

Sensor Integration

- Antenna
- Radar and microwave dishes
- Cameras
- Laser range finders
- Communication antennas
- Acoustic devices

HERCULES SPECIFICATIONS

Part Number	Description	Load Capacity		Height		Maximum Spread Diameter	Column Travel in. (cm)	Column O.D. in. (cm)	Leg Sections	Weight lbs. (kg)	Feet (Foot Plate)	Demensions (Transport) in. (cm)
		lbs.	kg	Max in. (cm)	Min in. (cm)							
4-53021-8*	Tripod, w/ Elevator Column	150	68	70 (178)	33.5 (85)	73 (185)	18 (45)	2 (5)	2	23 (10.4)	FP4	40.5 x 12.5 (102 x 31.3)
4-53031-7BQ*	Tripod, Extended Height w/ Elevator Column, w/Adapter	150	68	175 (444)	90 (228)	139 (353)	17.5 (44.5)	2 (5)	2	46 (20.9)	FP4	77 x 12.5 (193 x 31.3)
4-53220-6*	3/4 Tripod, Short Elevator Column	150	68	57 (144)	26 (66)	50.5 (128)	18 (45)	2 (5)	2	18 (8.2)	FP4	30 x 12.5 (76 x 31.3)
4-54504-2	Mobile Pedestal	80	36	56 (142)	38 (96.5)	34 (85)	18 (45)	2 (5)	2	35 (15.9)	Wheel Size: 4"	38 x 14 (97 x 35)
4-58001-5	Stationary Pedestal	80	36	50 (127)	32 (81)	N/A	18 (45)	2.375 (6.03)	2	16.5 (7.5)	FP6	29 x 12 (73 x 30)
4-52202	Tripod, No Column	150	68	52 (132)	30 (76)	73 (185)	N/A	N/A	N/A	20 (9.07)	FP4	5 x 12.5 (102 x 31.3)

* All column diameters (O.D.) 2 inches/5cm

HERCULES HEADS AND GEARED TYPE SPECIFICATIONS

Part Number	Description	Load Capacity		L x W x H		Pan (deg)	Tilt (deg)	Type	Dimension in.	Control Arm	Camera Screw	Camera Plate in. (cm)
		lbs.	kg	in.	cm							
4-52217-3C	Hercules Instrument Geared Head	50	22.7	8 x 10.5 x 11.5	20 x 26.6 x 29.2	360°	45° / 45°	Post 1.25 x 1.5	31.5 x 38	Hand Wheel	3/8 -16	9 x 6 (22.5 x 15)
4-52304-9*	Hercules Cam Head	80	36	11.75 x 8.25 x 5.50	30 x 21 x 14	360°	35° / 45°	Post 1.25 x 1.5	31.5 x 38	Hand Wheel	1/4 x 20 / 3/8 -16	4.5 x 10 (11.25 x 39)
4-52926-9C	Hercules Geared Head, Calibrated QHH-11 Large Platform	30	13	8 x 9.5 x 10.75	20 x 23.7 x 26.9	360°	45° / 90°	Post 1.25 x 1.5	31.5 x 38	Hand Wheel	1/4 - 20	4 x 4 (10 x 10)

* Includes 2 Control Arms.

HERCULES DOLLY AND CABLE GUARDS

Part Number	Description
4-56021	Dolly, 4 in/10cm Wheels, for Herc/Gibr Tripods with 4 in/10cm or 6 in/15.2cm Footplates
4-56120-5	Cable Guards (Set of 3)

HERCULES ACCESSORIES

Part Number	Description
4-55040-6	Control Arm for 4-52304-9, Telescoping 14-19.5 in/35-49cm Long
4-55110-7	Spike Tips (Set of 3)
4-55141-2	Transit Adapter 3-1/2 x 8 to 5/8-11
4-55142-0	Theodolite Adapter 5/8-11 Screw, Rotatable 360°
4-55143	Adapter 3-1/2-8 360 Rotatable
4-55144	Adapater Theodolite Rot. 3/8-16 x .600
4-55730-2	Adapter for QPT 20,50,90,130 to Hercules
4-55732	Adapter for QPT90/130/DOD/Marine
4-55901-9A	Adapter, Transit 3-1/2x8 fixed
4-65901-7	Adapter Wedge Plate QGWP
4-65701-1	Adapter Wedge Plate QGWPA
4-69020-2	Adapter, Conversion, fits Hercules accepts mounting posts Gibraltar Heads
4-75760-5	Adapter, Conversion, accepts Samson Heads with Sleeve Mount

FOOT PLATE 6" (15.2cm) diam. w/ 5/8" spike hole - FP6" 4" (10cm) diam. w/ 5/8" spike hole - FP4" Rubberball - Spike 1.5" diam. (3.8cm) - RBS1.5 Shovel Foot Small - SFS Shovel Foot Large - SFL

Samson Series

PRODUCT OVERVIEW

The Samson tripod series focuses on precision manufacturing, detailed assembly, and quality parts. The Samson's sturdy construction makes it ideal for industrial use.

PRODUCT SPECIFICATIONS

Available Features

- Payload capacity up to 90 lbs
- Anodized tubular construction guarantees years of reliable service
- Adapters and heads for any sensor payload

Sensor Integration

- Antenna
- Radar and microwave dishes
- Cameras
- Laser range finders
- Communication antennas
- Acoustic devices

SAMSON SPECIFICATIONS

Part Number	Description	Load Capacity		Height		Maximum Spread Diameter	Column Travel in. (cm)	Column O.D. in. (cm)	Leg Sections	Weight lbs. (kg)	Feet (Foot Plate)
		lbs.	kg	Max in. (cm)	Min in. (cm)						
4-73010-7B	Tripod,w/ Safety Elev Elevator	40	18	76 (193)	34 (86.4)	68 (173)	18 (45)	1.75 (4.4)	2	10 (4.5)	Spike Tip
4-73500-7B	3/4 Tripod Safety Elev Col, Short	40	18	60 (152)	24 (61)	47 (119)	18 (45)	1.75 (4.4)	3	8.5 (3.8)	Spike Tip
4-74425-6A	Tripod, w/ Elevator and Foot Plates	40	18	76 (193)	34 (86.4)	68 (173)	18 (45)	1.75 (4.4)	2	11 (5)	FP4
4-74500-6	Mobile Pedestal, Safety Elev Col	40	18	55 (139)	37 (94)	28 (71)	18 (45)	1.75 (4.4)	N/A	23 (10.5)	Wheels 4"
4-74420-7B	Microwave Tripod with Friction Head, 1/4-20 screw	35	16	64 (162)	40.5 (103)	60 (152)	N/A	N/A	2	15.5 (7)	FP4
4-74424-9C	Microwave Tripod w/ Head w/ Quick Change Plate 6-17019-5	35	15	64 (162)	40.5 (103)	60 (152)	N/A	N/A	2	17 (7.8)	FP4
4-74431-OR	Tripod, Samson	50	22.7	48 (122)	20 (51)	58 (147)	N/A	N/A	3	11 (5)	SFL
4-74433 -FB	Shovel Foot Tripod.	40	18	40 (102)	20 (51)	58 (147)	N/A	N/A	3	11 (5)	SFS
4-74432-FB	Tripod, Samson w/ PTU Adaptor MountQPT-20, 50 and GemninEye	40	18	58 (147)	31 (79)	68 (173)	N/A	N/A	2	10 (4.5)	FP4
4-73513-FB	Tripod, Samson Short	90	40.8	60 (152)	21 (53)	85.5 (217)	N/A	N/A	4	9.6 (7.8)	Spike Tip
4-74429-FB	Tripod Samson Short Light weight	50	22.7	42 (107)	19 (48)	58 (147)	N/A	N/A	3	7 (3.2)	FP4
4-74434	Tripod, 3-Section Leg	40	18	40 (102)	20 (51)	58 (147)	N/A	N/A	3	10 (4.5)	FP4

All Column Diameters (O.D.) 1-3/4 in/4.4cm

SAMSON HEADS, VIDEO, AND GEARED TYPE SPECIFICATIONS

Part Number	Description	Load Capacity		L x W x H		Pan (deg)	Tilt (deg)	Type	Dimen-sion in. (cm)	Control Arm	Camera Screw	Camera Plate in. (cm)
		lbs.	kg	in.	cm							
4-72011-6B*	Friction Head, Counterbalance Spring	35	15	5.5 x 6.5 x 6.5	14.1 x 16.6 x 16.6	360°	45/90	Sleeve	44.4	2	1/4 - 20	2.25 x 4.25 (5.6 x 10.6)
4-72512-3	Geared Photo Head	25	11	8.5 x 6.5 x 6	21.6 x 16.5 x 15.2	360°	45/90	Sleeve	44.4	0	1/4 - 20	6.5 x 8.5 (16.5 x 21.6)
4-72612-S3	Geared Movie Head	25	11.4	6 x 6.5 x 7.5	15.2 x 16.5 x 15	360°	45/90	Sleeve	44.4	1	1/4 - 20	2.25 x 4.25 (5.6 x 10.6)

All heads have 1/4-20 camera screw.

* Includes 2 control arms.

DOLLY AND ACCESSORIES	
Part Number	Description
4-20042-L	Replacement Control Arm Left for 4-25090-8
4-20042-R	Replacement Control Arm Right for 4-25090-8
4-56030-6	Dolly for 4-73010-7, 4-73500-7
4-75350-5	Hi-Hat
4-75750-6	Column Adapter Samson/Hercules
4-75910-6A	Adapter, Transit 3-1/2 x 8 to Samson Column
4-75915	Adapter, Samson / QPT20
6-15000-7	Spike and Ball Foot for 4-73010-7 (Set of 3)
6-15001-5	Replacement Footpad Assembly for 4-74420, 4-74424, and 4-74425 (Set of 3)
6-15004-9	Spike and Ball Foot for 4-73500-7 (Set of 3)
6-17019-5	Instrument Plate for 4-74424-9 System

LEVELERS	
Part Number	Description
4-75920-XY	Leveler

BORESIGHT MOUNTS	
Part Number	Description
6-21085-FB	Boresight Mount

MINI FIELD	
Part Number	Description
4-82500	Mini Field Tripod

FOOT PLATE 6" (15.2cm) diam. w/ 5/8" spike hole - FP6" 4" (10cm) diam. w/ 5/8" spike hole - FP4" Rubberball - Spike 1.5" diam. (3.8cm) - RBS1.5 Shovel Foot Small - SFS Shovel Foot Large - SFL

LTT - Lightweight Targeting Tripod

NEW!

PRODUCT OVERVIEW

Moog introduces the Lightweight Targeting Tripod (LTT); the latest in ultra-lightweight man-portable tripods. A precision pointing device; The LTT can accurately position payloads weighing up to 25 lbs (11.3 kg.) with high repeatability in both azimuth and elevation. Its flexible architecture allows the operator to use it in a variety of missions and configurations.

The LTT is an extension of Moog strong positioning legacy combined with unique new features that give it the performance edge needed for rapid deployments and covert operations. A proprietary drive mechanism provides unlimited positioning in both coarse adjustment, which can be used for initial acquisition, and fine adjustment, a necessary feature for continuous target tracking. It is constructed of rugged non-magnetic materials that will not interfere with the operation of a digital magnetic compass.

The LTT was developed for a wide range of uses that require precision pointing of imaging, sighting and targeting payloads. A well thought out combination of composite and metal components delivers a product with optimized weight and performance.

Facts:

In addition to unlimited coarse and fine positioning adjustments, the drive mechanism holds the payload in place without the need for additional action by the operator. This is a plus under any condition but is a must for time sensitive operations where stress is at a high level. The LTT also has a Picatinny Rail or Grabber and ¼" x 20 screw base to meet the mounting requirements of many U.S. Army handheld devices.

SPECIFICATIONS	
Maximum Tripod Payload Weight Limit:	25 lbs. (11.3 kg)
Maximum Azimuth Holding Capability:	36 lb-in of payload torque
Maximum Elevation Holding Capability:	36 lb-in of payload torque
Materials:	Constructed of all non-magnetic materials
Payload Attachment:	1/4" x 20 screw with NATO Rail
Operational Height:	8.75" to 23.25" (222.3 to 590.6 mm)
Stow Height:	15.25" (387.35 mm)
Quick Release Mechanism:	Couple / Decouple lever on pan and tilt head
Fine Adjustment:	Planetary gear on pan and tilt head
Leveling Mechanism:	Bubble level

*These products are subject to export control laws and regulations of the United States government and fall under the control jurisdiction of either ITAR or EAR regulations. Please contact our company Export Representative at +1-716-687-4930 for additional export information.

Pegasus Series

NEW!

PRODUCT OVERVIEW

Pegasus is a precision pointing device that can accurately position payloads weighing up to 25 lbs, with high repeatability in both azimuth and elevation. Its flexible architecture allows the operator to use it in a variety of missions and configurations.

Pegasus is an extension of the strong Moog positioning legacy combined with unique new features that give it the performance edge needed for rapid deployments and covert operations. A proprietary drive mechanism provides unlimited positioning in both coarse adjustment, which can be used for initial acquisition, and fine adjustment, a necessary feature for continuous target tracking.

Pegasus was developed for a wide range of uses that require precision pointing of imaging, sighting, and targeting payloads. A well thought out combination of composite and metal components provides a good balance for the optimization of performance light weight materials.

In addition to the unlimited coarse and fine positioning adjustments, the drive mechanism locks the payload in place without the need for additional action by the operator. This is a plus under any condition, but an absolute requirement for time-sensitive operations where stress is at a high level. Pegasus also incorporates a quick release tabletop and a quick disconnect connector to minimize the number of steps required to deploy the system.

Three configurations are available:

❶ Pegasus tripod with encoders and a non-magnetic CrossBow North Finder unit. The North Finding unit uses a MEMS based sensor set that can find the north vector and the horizon plane to within 4 mrad. This data is combined with the encoder feedback and provided to the payload or other device. Positioning is relative to the true north and gravity.

❷ Pegasus tripod with encoders. Pegasus provides encoder feedback to the payload or other device relative to its base.

❸ Pegasus without encoders. Pegasus provides coarse and fine movement for applications that do not require encoder positioning feedback.

PRODUCT SPECIFICATIONS

Available Features
- Payload capacity up to 25 lbs
- Anodized and powder coat finished parts for resistance to harsh environments
- Rapid deployment

Sensor Integration
- Cameras
- Laser range finders
- Communication antennas

PEGASUS SPECIFICATIONS						
Part Number	Description	Load Capacity		Weight lbs. (kg)	Encoder Resolution (mrad)	Cumulative Error (mrad)
		lbs.	kg			
5-60000	Pegasus Tripod With Fine Adjust Only	25	11	3.5 (1.6)	N/A	N/A
5-60010	Pegasus Tripod With Fine Adjust and Feedback	25	11	6.1 (2.8)	0.17	0.9 to Tripod Head Base
5-60020*	Pegasus Tripod With Encoders and Non-Magnetic Cross Bow North Finder Unit	25	11	7.3 (3.3)	0.17	5.0 to North Finder
5-60030	Pegasus Tripod With Camera Screw	30	13	2.0 (0.9)	N/A	N/A

* This product is controlled under the International Traffic in Arms Regulations (ITAR). This product cannot be exported without first complying with all the requirements of the ITAR (22 CFR 120-130), USML Category XII (d)*, including requirements for obtaining specific export authority from the United States Department of State.

Camera Enclosures

Box Camera Enclosure

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Fusion Camera Housing (Thermiq)

PRODUCT OVERVIEW

The professional grade outdoor Fusion Camera Housing with Thermiq Technology is designed to keep advanced IP fixed cameras operating at top performance. A major threat to outdoor cameras is heat. Today's IP cameras generate a lot of heat and radiation from the sun is a substantial contributor as well. A typical outdoor camera system may operate in an ambient temperature of 105°F (40°C), but the temperature inside the camera can be 120°F (50°C) or higher. Over time high temperatures reduce the performance of the camera and can lead to premature failure.

Moog Engineers developed Thermiq Technology, a technologically advanced yet simple and effective solution to combat camera heat. Unlike other camera cooling solutions on the market, Thermiq Technology requires very little power and maintains the camera enclosure's rugged IP66 rating while ensuring that heat does not build up in the camera. By flowing warm internal air and cool external air over a heat sink designed for maximum efficiency, heat generated by IP camera electronics and sun radiation is eVacuated from the housing. Thermiq Technology removes up to 75% of heat generated by the camera and solar energy, keeping the internal housing temperature closer to ambient.

Intuitive design also played a key role in the formation of the Fusion Line. Smart features include: a side hinge that allows for easy camera servicing and setup; a camera mounting sled that snaps into the housing for simple and secure camera installation; a strategically placed heater that defogs the housing window and lens for clear viewing; and a heavy-duty feed through wall / pole mount with conduit input for clean aesthetics. Available with 24Vac / 12Vdc input or Moog PoE plus with (Patent Pending) Dynamic Power Allocation (DPA) technology. There's a Fusion model ideal for your particular surveillance application.

PRODUCT SPECIFICATIONS

Available Features

- Meets NEMA Type 4 and IP66 standards
- IK10 impact rated
- Thermostatically controlled blower
- Standard wall / pole mount
- Accommodates wide-angle lenses up to 135º
- Fits most fixed camera / lens combinations

SPECIFICATIONS						
Part Numbers	**Description**					
FCH11C2WQ	Environmental housing with heat exchanger, feed-thru wall / pole mount 24Vac or 12Vdc input, Heater / Blower, adjustable sunshield					
FCH11C8WQ	PoE input, with DPA, supports IEEE802.3af cameras, 30 watt midspan included, heater/ blower, adjustable sunshield					
FCH11C4WQ	24Vac input, output 802.3af PoE for the camera, Heater / Blower, adjustable sunshield					
FCH11C4WQ-MM	24Vac input, output 802.3af PoE for the camera, Heater / Blower, adjustable sunshield with MSA compliant multi-mode fiber-optic transceiver					
FCH11C4WQ-SM	24Vac input, output 802.3af PoE for the camera, Heater / Blower, adjustable sunshield with MSA compliant single-mode fiber-optic transceiver					
GENERAL						
Dimensions:	19.2" x 6.1" x 11.1" (488 x 155 x 282mm)					
Max. Camera Length:	11" (280mm)					
Weight:	5.3 lbs					
Blower (Internal):	Yes (Continuous)					
Heater Activates At:	60°F (15.5°C)					
Heater Deactivates At:	80°F (27°C)					
Power Consumption:	24Vac:	30 watts: Heater / Blower	12Vdc:	13 watts: Heater / Blower	PoE:	30 watts: Camera, Heater / Blower
Maximum Windload:	150mph (240kph)					
Construction Body and Top:	Polycarbonate					
Mounting Bracket Construction:	Cast aluminum					
Input Voltage / Power Input:	24Vac, 80W					

Fusion Camera Housing

PRODUCT OVERVIEW

The Fusion Camera Housing Series of environmental camera enclosures is designed to fit a multitude of rugged outdoor surveillance applications. The housing is constructed of resilient polycarbonate and has a wall / pole mount comprised of cast aluminum with a durable powder coat finish, all of which ensure protection of your camera even in the harshest of conditions. Additionally, the heavy-duty wall / pole mount keeps cables protected and out of sight due to its feed-thru capability. This feature coupled with the side-hinged lid and tool-free camera tray ensures easy installation and servicing of your camera.

PRODUCT SPECIFICATIONS

Available Features

- Meets NEMA Type 4 and IP66 standards
- IK10 impact rated
- Accommodates wide-angle lenses up to 135º
- Hinged wall mount allows for easy installation
- Standard wall / pole mount
- 12/24v input models
- PoE models
  - Supports PoE Plus IEEE802.3at compliant cameras
  - True PoE power to the camera (no splitter needed)
  - Automatically adjusts for power loss in long cable runs
  - DPA ensures maximum power to the camera

SPECIFICATIONS						
Models	**Description**					
FCH11CW	Environmental housing with feed-thru wall / pole mount, no electronics					
FCH11C2WY	24Vac or 12Vdc input, Heater / Blower, adjustable sunshield					
FCH11C8WY	PoE input, with DPA, supports IEEE802.3af cameras, 30 watt midspan included, Heater / Blower, adjustable sunshield					
FCH11C4WY	24Vac input, output 802.3af PoE for the camera, Heater / Blower, adjustable sunshield					
FCH11C4WY-SM	24Vac input, output 802.3af PoE for the camera, Heater / Blower, adjustable sunshield, MSA compliant single-mode fiber-optic transceiver					
FCH11C4WY-MM	24Vac input, output 802.3af PoE for the camera, Heater / Blower, adjustable sunshield, MSA compliant multi-mode fiber-optic transceiver					
GENERAL						
Dimensions:	17.9" x 5.7" x 10.5" (455 x 145 x 267mm)					
Max. Camera Length:	11" (280mm)					
Weight:	4.5 lbs					
Blower (Internal):	Yes (Continuous)					
Heater Activates At:	60°F (15.5°C)					
Heater Deactivates At:	80°F (27°C)					
Power Consumption:	24Vac:	27 watts: Heater / Blower	12Vdc:	10 watts: Heater / Blower	PoE:	25 watts: Camera, Heater / Blower
Maximum Windload:	150mph (240kph)					
Construction Body and Top:	Polycarbonate					
Mounting Bracket Construction:	Cast aluminum					
Input Voltage / Power Input:	24Vac, 80W					

FCH 360

PRODUCT OVERVIEW

The Fusion Camera Housing (FCH) now enables cameras equipped with CS mount Panomorph lenses, to be used in conjunction with wall or pole mount applications, both indoors and outdoors. The FCH Series of environmental camera enclosures is designed to fit a multitude of rugged outdoor surveillance applications. The housing is constructed of resilient polycarbonate and has a wall / pole mount comprised of cast aluminum with a durable powder coat finish to ensure protection of your camera even in harsh conditions. Additionally, the heavy-duty wall / pole mount keeps cables protected and out of sight with its feed-thru capability. This feature coupled with the side-hinged lid and tool-free camera tray ensures easy installation and servicing of your camera.

Outdoor models are equipped with an advanced climate control system that incorporates distributed air-flow and provides warm, dry air where you need it most...on the viewing window. This "built-in" de-fogging system delivers clear viewing, even in tough conditions. Also available is a Power over Ethernet (PoE) plus model with patent pending Moog Dynamic Power Allocation (DPA) technology. PoE reduces installation time by simplifying wiring needs, while DPA prioritizes power to the camera over other less critical electronics. Perhaps most importantly, the Fusion Line is compatible with most leading IP and analog camera manufacturers making it the professional's choice for environmental camera housings.

PRODUCT SPECIFICATIONS

Available Features

- Meets NEMA Type 4X and IP66 standards
- Adjustable sunshield ("Y" models)
- Hinged wall mount allows for easy installation
- Compatible with ImmerVision Enables® panomorph lenses and most qualified box cameras
- Standard wall / pole mount
- PoE or 12/24v input model
  - Supports PoE Plus IEEE802.3at compliant cameras
  - True PoE power to the camera (no splitter needed)
  - Automatically adjusts for power loss in long cable
  - DPA ensures maximum power to the camera

SPECIFICATIONS						
Models	**Description**					
FCH360CW	Environmental indoor / outdoor housing accommodates an ImmerVision Enables panomorph lens and qualified box camera with feed-thru wall / pole mount					
FCH360C2WY	Environmental indoor / outdoor housing accommodates an ImmerVision Enables panomorph lens and qualified box camera with feed-thru wall / pole mount, with adjustable sunshield					
FCH360C8WY	Environmental indoor / outdoor housing accommodates an ImmerVision Enables panomorph lens and qualified box camera with feed-thru wall / pole mount, DPA, PoE input, 30 watt midspan included, Heater / Blower, supports IEEE802.3at PoE cameras, adjustable sunshield					
GENERAL						
Dimensions:	17.9" x 5.7" x 10.5" (455 x 145 x 267mm)					
Max. Camera Length:	11" (280mm)					
Weight:	4.5 lbs					
Blower (Internal):	Yes (Continuous)					
Heater Activates At:	60°F (15.5°C)					
Heater Deactivates At:	80°F (27°C)					
Power Consumption:	24Vac:	27 watts: Heater / Blower	12Vdc:	10 watts: Heater / Blower	PoE:	25 watts: Camera, Heater / Blower
Maximum Windload:	150mph (240kph)					
Operating Temperature:	-50°F to 122°F (-45°C to 50°C)					

IMMERVISION ENABLES 360° PANOMORPH LENSES

ImmerVision's patented optic technology combines 360° panomorph lenses and immersive software algorithms to enable 360° functionalities for a variety of indoor and outdoor applications. Moog offers a suite of enclosures and mounting accessories to accommodate the growing need for 360° surveillance in any environment.

Lens Sold Separately

R360-IV

PRODUCT OVERVIEW

The R360-IV provides an easy to install, aesthetically designed, and completely self-contained enclosure for 360° panomorph lenses and compatible box cameras. This easy to install, plenum-rated enclosure is ideal for office, retail, and school environments.

PRODUCT SPECIFICATIONS

Available Features

- Includes a flush decorative trim ring with safety lanyard and captive security fasteners
- Easy installation and servicing from below the ceiling or overhang
- Compatible with most major ImmerVision Enables® panomorph lens qualified box cameras

SPECIFICATIONS			
Models	Description		
R360-IV	The R360-IV indoor ceiling-mount housing features a flush plate that accommodates an ImmerVision Enables panomorph lens and qualified box camera. The upper body, made of heavy 20 and 22-gauge steel and a white powder metal trim ring is plenum rated for fire resistant ceiling applications		
GENERAL			
Dimensions:	7.9" x 8.6" (201 x 220mm)		
Max. Camera Length (Fixed):	6.25" (+lens) (158.7mm)		
Weight:	3.65 Lbs. (without camera / lens) (1.65 kg.)		
Operating Temperature:	32ºF to 120ºF (0ºC to 49ºC)		
Construction			
BACK BOX		TRIM RING	FLUSH LENS PLATE
20 and 22-gauge steel		Stamp steel	1/8" aluminum

IMMERVISION ENABLES 360° PANOMORPH LENSES

ImmerVision's patented optic technology combines 360° panomorph lenses and immersive software algorithms to enable 360° functionalities for a variety of indoor and outdoor applications. Moog offers a suite of enclosures and mounting accessories to accommodate the growing need for 360° surveillance in any environment.

Lens Sold Separately

Fusion Pressurized and Dust-Proof Housings

PRODUCT OVERVIEW

The Fusion Pressurized and Dust-Proof Housings for fixed cameras are engineered with camera protection, ease of installation and true flexibility in mind. The Moog "elegantly simple by design" philosophy ensures affordability in the finished product.

The Fusion tubular housing body is constructed of treated aircraft-grade aluminum and 316 stainless steel hardware to ensure camera protection in harsh, corrosive environments. Pressurization protects the camera and lens from debris, chemicals and other containments, extending the life of the camera and reducing service calls. Each pressurized unit includes a 16-pin hermetically-sealed connector to simplify connections. A heavy-duty feed through wall / pole mount, with conduit input, protects and conceals wiring.

Fusion Pressurized Housings are potentially the easiest pressurized enclosure to install and maintain on the market. Easy access to the camera and all serviceable parts allows service to be performed while the camera position and viewing angle are maintained. Other easy-to-install features include: a camera sled that can be rotated within the housing to ensure the desired field of view; a rear endcap that allows for easy wire installation through the mount; and a simple plug-in connection board.

Flexible features include: 12/24v or PoE Plus option, with patent pending Dynamic Power Allocation™ (DPA); and distinct models offering dust proof or pressurization to meet required levels of protection.

PRODUCT SPECIFICATIONS

Available Features

- Powder coated aluminium and 316 stainless steel hardware
- Thermostatically controlled heater, with continuous blower
- Meets IP67 and NEMA Type 4 standards
- 5-7psi pressure relief valve eliminates over pressurization
- Schraeder valve to fill the housing with Nitrogen or another clean stable gas
- Standard wall / pole mount (no pole adapters needed)
- IK10 vandal resistant (model available upon request)
- PoE or 12/24v input model
- PoE Ready™ models:
  - PoE Plus IEEE802.3at compliant device, compatible with any PoE IEEE802.3af camera
  - True PoE power to the camera (no splitter needed for camera)
  - DPA ensures maximum power to the camera with remaining power provided to the Heater / Blower
  - Automatically adjusts to power loss for long cable runs

SPECIFICATIONS						
Models	**Description**					
PFH10C2W	Pressurized tubular housing, 24Vac or 12Vdc input, Heater / Blower with feed-thru wall / pole mount					
PFH10C2WY	Pressurized tubular housing, 24Vac or 12Vdc input, Heater / Blower with feed-thru wall / pole mount, adjustable sunshield					
PFH10C8WY	Pressurized tubular housing, PoE input with Dynamic Power Allocation, 30 watt midspan included, Heater / Blower with feed-thru wall / pole mount, supports .af PoE cameras, adjustable sunshield					
DFH10C2W	Dust-Proof tubular housing, 24Vac or 12Vdc input, Heater / Blower with feed-thru wall / pole mount					
DFH10C2WY	Dust-Proof tubular housing, 24Vac or 12Vdc input, Heater / Blower with feed-thru wall / pole mount, adjustable sunshield					
DFH10C8WY	Dust-Proof tubular housing, PoE input with Dynamic Power Allocation, 30 watt midspan included, Heater / Blower with feed-thru wall / pole mount, supports .af PoE cameras, adjustable sunshield					
GENERAL						
Dimensions:	20" x 12" x 6" (510 x 305 x 153mm)					
Max. Camera Length:	10" (250mm)					
Weight:	10 lbs (4.6 kg.) (WITH MOUNT AND SUNSHIELD)					
Mounting Style:	Wall or Pole (STANDARD)					
Heater Activates At:	60°F (15.5°C)					
Heater Deactivates At:	80°F (27°C)					
Power Consumption:	24Vac:	29 watts: Heater / Blower	12Vdc:	11 watts: Heater / Blower	PoE:	25 watts: Camera, Heater / Blower
Power Output:	24/12v:	Same as input, minus power for Heater / Blower	PoE:	IEEE802.3af		
Maximum Windload:	150mph (240kph)					
Construction Body and Top:	Extruded aluminum					
Mounting Bracket Construction:	Cast aluminum					
Blower:	Yes (Continuous)					

RC200C / OH081

RC200C

PRODUCT OVERVIEW

This low profile camera housing is designed for use in suspended ceiling applications, replacing a standard 2' x 2' ceiling tile. Its unique design allows the unit to be manually rotated 360°, and the compact size is ideal for use with a fixed, 11" camera and lens combination. The light weight of the RC200C means no special supports are needed.

PRODUCT SPECIFICATIONS

Available Features

- Housing is manufactured from high-impact, off-white ABS plastic
- OD1 optional metal back box available for plenum applications to comply with standard building codes
- The unit is fully adjustable for 360° positioning
- Lightweight plastic housing requires no special ceiling support attachments
- Viewing window sonically welded to a snap-in mount

SPECIFICATIONS			
Models	Description		
RC200C	IP Fixed Network: The RC200C is constructed from a high-impact, off white plastic. The IP network ready rotating fixed ceiling camera housing is meant to replace a 2' x 2' ceiling tile. No special ceiling support attachments needed. Fully adjustable for\ 360° positioning		
GENERAL			
Dimensions:	2' x 2' (51 x 51mm)		
Construction			
Housing		Bracket	Snap-In Mount
94HB ABS plastic		Stainless steel	4" x 2.9" (102 x 74mm)
Dust Cover (Optional):	Metal		
Viewing Window:	Clear acrylic		
Operating Temperature:	-20ºF to 120ºF (-29°C to 49°C)		

The housing shall be capable of 360° manual rotation without the use of secondary brackets or plates. The view panning adjustment shall be unlimited, with locking tabs provided to secure desired viewing angle. An adjustable stainless steel camera bracket shall be included.

OH081

PRODUCT OVERVIEW

The OH081 is a general purpose, compact 8" ceiling mount dome for fixed cameras. The white body and dome is a seamless one piece construction designed to replace a 2' x 2' ceiling tile.

PRODUCT SPECIFICATIONS

Available Features

- Available clear or tinted (1 F-stop light reduction)
- Low profile; dome extends only 4" below ceiling line
- MCL - 8" (Maximum Camera Length)
- Adjustable camera bracket included
- One piece integral construction
- Cell-cast acrylic tinted dome
- Replaces a 2'x 2' ceiling tile

SPECIFICATIONS	
Models	Description
OH081TL	Tinted 8" drop ceiling dome for 2' x 2' tile. Low profile, dome extends only 4" below the ceiling. A one piece integral construction includes one fixed camera bracket and liner. MCL 8"
OH081CL	Clear 8" drop ceiling dome for 2' x 2' tile. Low profile, dome extends only 4" below the ceiling. A one piece integral construction includes one fixed camera bracket and liner. MCL 8"
OH081D	8" drop ceiling dummy dome

The ceiling mount dome housing shall be formed from cell-cast acrylic and be designed to replace a 2' x 2' ceiling tile. The dome shall be either clear or tinted, the tinted allowing 1 F stop light reduction, and shall be 8". The body shall be white. The unit shall feature one piece integral construction. An adjustable fixed camera bracket shall be included, and the maximum camera length shall be 8".

ACEM20C, ACE20C / AMS90, AMS180

ACEM20C

ACE20C

PRODUCT OVERVIEW

Moog offers an array of indoor vandal resistant housings. No matter what the application Moog has the solution for any surface be it wall or ceiling. Designed to house a solid-state camera unit in a compact casing these discrete housings are ideal for environments were a higher level of security is needed.

Available Features

- Easy-to-replace Window Guard™ paint shield allows vandalized viewing window to be quickly and economically restored to clarit

PRODUCT SPECIFICATIONS

ACEM20C

- Easy installation to any type of ceiling
- Optional 24Vac heater / thermostat for protected outdoor applications and for defogging the window

ACE20C

- Easy installation to any type of ceiling
- Fully adjustable camera bracket for top or bottom mounting
- Right-angle BNC connector included for longer length cameras

SPECIFICATIONS	
Models	**Description**
ACEM20C	Indoor Steel, Surface Mount: An off-white powder coat 14-gauge steel ceiling wedge housing with clear 3/16" polycarbonate window with Window Guard paint shield
ACE20	Indoor Surface Mount Wedge: An off-white polycarbonate ceiling wedge housing with clear viewing window
ACE20T	Indoor Surface Mount Wedge: An off-white polycarbonate ceiling wedge housing with tinted viewing window
CAMERA SIZE (ACE20 / ACE20T)	
Camera / lens combinations are based on various cameras fitted with a 4mm fixed lens (Computar TG0412FCS-3) with a lens length of 1 ¼" and a 3.5-8mm varifocal lens (Computar TG223514F- CS-2) with a lens length of 1 ¾"	

AMS90

AMS180

PRODUCT OVERVIEW

Moog offers an array of indoor vandal resistant housings. No matter what the application Moog has the solution for any surface be it wall or ceiling. Designed to house a solid-state camera unit in a compact casing these discrete housings are ideal for environments were a higher level of security is needed.

PRODUCT SPECIFICATIONS

Available Features

- Easy-to-replace Window Guard™ paint shield allows vandalized viewing window to be quickly and economically restored to clarity
- Mounting hardware fully contained within unit to guard against tampering
- Can be mounted with top against ceiling, while still permitting hinged lid to open for full access to the unit
- Rugged, 14-guage cold-rolled steel construction with welded seams

SPECIFICATIONS	
Models	**Description**
AMS90	Indoor Corner Mount: An off-white powder coated vandal resistant construction; 14-gauge steel housing for corner mount with barrel / cam lock, clear .22" thick Lexan® viewing window, and Window Guard paint shields. The housing includes an adjustable bracket for fixed camera. MCL 8" (Maximum Camera Length)
AMS180	Wall Mount: An off-white powdercoated vandal resistant construction; 14-gauge steel housing for wall mount with barrel / cam lock, clear .22" thick Lexan® viewing window, and Window Guard paint shields. The housing includes bracket for fixed camera. MCL 8"

BMT10

PRODUCT OVERVIEW

The BMT10 unit by Moog is a bullet-resistant environmental camera housing featuring a 7-gauge steel body and is designed to meet or exceed Level III protection per UL standard 752. An integrated tilt bracket protects all wiring and allows for surface mount applications, plus an innovative camera sled allows the camera to be rotated 360° within the housing to allow for any mount position.

PRODUCT SPECIFICATIONS

Available Features

- Accepts many lens and camera combinations up to 10”
- SP-1250 Lexgard® viewing window, with a Window Guard™ paint shield
- Rotating camera sled allows the housing to be mounted at any angle
- Constructed from 7-gauge steel for strength and durability
- Durable, heat reflective, white powder-coat finish
- Thermostatically controlled heater standard
- Integrated tilt bracket to protect wiring
- Designed to meet IP65 standards
- Optional sunshield
- US Patent No. 6,375,369 B1

SPECIFICATIONS	
Models	**Description**
BMT10C	Steel Bullet-Resistant Outdoor housing with Window Guard™ paint shield, plus 115Vac Heater / Thermostat (Level III)
BMT10C2	Steel Bullet-Resistant Outdoor housing with Window Guard™ paint shield, plus 24Vac Heater / Thermostat
BMT10C3	Steel Bullet-Resistant Outdoor housing with Window Guard™ paint shield, plus 220/240Vac Heater / Thermostat

Tough enough to stop a .44 Magnum bullet

GENERAL		
Dimensions:	6.74” x 4.52” x 13.74”	
Power Source		
BMT10C	**BMT10C2**	**BMT10C3**
120Vac, 50/60Hz, 28 VA	24 Vac, 50/60Hz, 28 VA	230Vac, 50/60Hz, 28 VA

The ballistic-rated environmental housing shall be constructed from 4.50” diameter steel tubing with a .23” thick wall, and shall include a thermostatically controlled heater. Front end plate shall be made from 7-gauge steel. The viewing window shall be constructed from SP-1250 Lexgard®, 1.25” bullet-resistant plastic with a vandal resistant guard, and shall be bolted to the front end plate. The internal camera bracket, which will rotate 360° inside the housing, shall allow the housing body to be mounted on any angled surface. The enclosure shall have an integrated tilt bracket that protects wiring and also allows for surface mount applications. An optional .090” thick aluminum sunshield will be available. Both the housing and sunshield shall have a heat- reflective, white powder coat finish

Window Guard Paint Shield™:
Our exclusive Window Guard™ paint shield protects housing windows from vandals using spray paint or paint ball guns.

Fusion Stainless Steel Tubular Camera Housing

PRODUCT OVERVIEW

The Fusion Stainless Steel (SS) Tubular Camera Housing is designed to protect surveillance cameras in the harshest environments while supporting crystal-clear video capture. The IP67-rated, 316 SS camera enclosure is the perfect solution for surveillance applications in corrosive marine / coastal applications, as well as medical / pharmaceutical, food processing, transportation, and oil / gas processing environments. The Fusion Stainless Steel Tubular Housing also thrives in adverse urban environments.

Being part of the Moog Fusion line, the Stainless Steel Tubular Housing is compatible with most fixed box-style cameras.

PRODUCT SPECIFICATIONS

Available Features

- 316 SS construction guards against harsh environmental conditions
- Offers protection against corrosive chemicals
- Meets NEMA type 6P and IP67 standards
- Thermostatically controlled 24Vac Heater / Blower model available
- Optional 316 SS wall mount

SPECIFICATIONS				
Models	**Description**			
SSH10CY	Stainless steel tubular housing, sunshield			
SSH10C2Y	Stainless steel tubular housing, 24Vac input, Heater / Blower, sunshield			
GENERAL				
Dimensions (With Sunshield):	7.0" x 6.7" x 18.0" (180 x 171 x 457mm)			
Weight:	16.9 lbs (7.7 kg.)			
Construction Body:	316 alloy stainless steel, corrosion and heat-resistant			
Gland Seal Accommodates Wire Diameters (B / T):	0.250" and 0.375" (6.35 and 9.525mm)			
Window:	Glass 5mm thickness, 87mm circular			
Input Voltage:	12/24v input model			
Power Consumption:	24Vac:	29 watts: Heater / Blower	12Vdc:	11 watts: Heater / Blower
Power Output 24/12v:	Same as input, minus power for Heater / Blower (No Voltage Compression)			
Environmental Specifications (Indoor / Outdoor)				
Operating Temperature-Ambient:	-58°F to 122°F (-50°C TO 50°C)			

Fusion Stainless Steel Dome

PRODUCT OVERVIEW

The Fusion Stainless Steel (SS) Dome is designed to protect surveillance cameras in the harshest environments while supporting crystal-clear video capture. Corrosive marine and coastline applications, as well as heavily-saturated chemical environments are no match for the 316 L SS housing and sunshield; nor the specially-engineered, optically-clear lower dome. The lower dome offers both better optics, and more resistance to harsh chemicals than traditional acrylic and polycarbonate domes.

This IP67-rated camera housing is the perfect solution for surveillance applications in marine, medical, pharmaceutical, food processing, transportation, and even oil / gas processing environments. A pressurized model eliminates the negative effects of contamination. An IK-10 impact rating allows the Fusion Stainless Steel Dome to thrive, in adverse urban environments.

Being part of the Moog Fusion line: the Stainless Steel Dome is compatible with most camera manufacturers' PTZ lines.

PRODUCT SPECIFICATIONS

Available Features

- 316 L SS construction guards against harsh environmental conditions
- Offers protection against corrosive chemicals
- With impact resistance that rivals polycabonate, the optically clear and durable lower dome is manufactured from chemical-resistant engineered plastic. (The dome is resistant to most organic solvents and alkalis, unaffected by petroleum fractions, oils and fats. Resistant to dilute mineral acid and most organic acids.)
- Thermostatically controlled 24Vac Heater / Blower (outdoor models)
- Standard pendant mount (1½" male pipe thread)
- Optional SS wall mount
- Pressurized models available
- Meets NEMA type 4X/6 and IP67 standards
- IK-10 impact rated

SPECIFICATIONS	
Part Numbers	**Description**
SSDP75CN	Stainless steel dome, pendant mount, no electronics
SSDP75C2N	Stainless steel dome, pendant mount, 24Vac input, Heater / Blower
SSDP75C2NY	Stainless steel dome, pendant mount, 24Vac input, Heater / Blower, sunshield
SSPDP75C2N	Pressurized stainless steel dome housing, pendant mount, 24Vac input, Heater / Blower
SSPDP75C2NY	Pressurized stainless steel dome housing, pendant mount, 24Vac input, sunshield, Heater / Blower
GENERAL	
Dimensions (H x W):	14.3" x 11.3" (364 x 288mm)
Weight:	14.3 lbs (6.5 kg.)
Power Consumption:	24Vac: 52 watts: Heater / Blower
Power Output	24Vac: Same as input, minus power for Heater / Blower
Blower:	Yes (Continuous)
Heater:	Yes (Outdoor models)
Maximum Windload:	150mph (240kph)
Operating Temperature:	-50°F to 120°F (-45.5°C to 49°C)
Operating Humidity:	Up to 100% (dessicants on both normal and pressurized models)

FusionDome

PRODUCT OVERVIEW

With its attractive design and compact size, the FusionDome from Moog offers versatility and added protection to your video surveillance system.

Compatible with most of today's leading IP and analog camera manufacturers, the FusionDome is constructed of a durable engineered plastic top, 94V0 UV protected, and includes an enhanced optical dome. To better meet the demands of your particular surveillance application, the FusionDome is available with several unique options: pendant or wall mount, 12Vdc input, Heater / Blower, fixed or PTZ camera bracket, and more.

PRODUCT SPECIFICATIONS

Available Features

- Thermostatically controlled 12Vdc or 24Vac heater and surge protection (outdoor models only)
- Integrated wall mount standard; pendant mount available (1½" pipe thread)
- Enhanced optically clear lower dome for increased visibility
- Universal mounting plate accepts most IP network and analog camera systems
- Durable engineered plastic top, 94V0 UV protected
- IP66 rated
- PoE models are also available

PoE Available Features

- Reduces installation cost by allowing a network camera to use the same cabling that is used for all other devices on a network (one contractor installs all cabling)
- Eliminates the need for power outlets at the camera location
- Combines easily with industry-standard uninterruptible power supplies (UPS) to guarantee 24 / 7 / 365 operation
- Installation can be completed without an electrician
- One cable connection, one midspan powers everything

SPECIFICATIONS	
Models	**Description**
FDW75C2N	IP network ready 7" outdoor dome housing with wall mount, clear polycarbonate dome, with 24Vac input, Heater / Blower, for an IP network PTZ camera, 120 to 24Vac transformer
IFDP75TN	Indoor dome housing with pendant mount, tinted dome, for an IP network PTZ camera, no electronics
FDW75C12N	12Vdc version of the FDW75C2N
FDW75F2N	IP network ready 7" outdoor dome housing with wall mount, clear polycarbonate dome, with 24Vac input, Heater / Blower, for an IP fixed camera, 120 to 24Vac transformer
IFDP75TF	Indoor dome housing with pendant mount, tinted dome, for an IP network fixed camera, no electronics
FDW75C8N	Standard outdoor wall mount dome housing for PoE and PoE Plus enabled PTZ / fixed cameras. DPA system, 60W, 100-240Vac input, midspan included
FDW75CF8N	Fixed outdoor wall mount dome housing for PoE and PoE Plus enabled PTZ / fixed cameras. DPA system, 60W, 100-240Vac input, midspan included
GENERAL	
Dimensions (H x W x D):	14.7" x 8.2" x 14.5" (374 x 208 x 369mm)
Weight:	11 lbs. (5 kg.)
Power Requirements:	24Vac 55W (Heater / Blower 27W)
Dome 24Vac Model:	12Vdc, 50W
Dome 12Vdc Model:	(Includes 20W for heater)
Input Power:	802.3at (PoE Ultra)
Supported Cameras:	802.3af or 802.3at
Operating Temperature:	-20°F to 120°F (-29°C to 49°C) • PoE models: -20°F to 122°F (-29°C to 50°C)
Maximum Windload:	150mph (240kph)

RuggedDome

PRODUCT OVERVIEW

Ideal for applications needing extra protection from vandalistic attacks. The Moog 7" vandal resistant, rugged housing (RHW75 Series) offers versatility and adequate camera protection in a compact / attractive design. Constructed of a cast aluminum top, and polycarbonate dome, the RHW75 Series boasts an IP66 rating. The RHW75 Series is available in a variety of models, designed to suit your individual needs. Select from one of our outdoor or indoor, wall or pendant mount options. The RHW75 Series includes a Moog universal camera bracket system which enables you to utilize most of today's leading IP or analog camera systems (fixed or PTZ). Outdoor models include two heaters and two blowers.

PRODUCT SPECIFICATIONS

Available Features

- Rugged, vandal-resistant cast aluminum top and polycarbonate dome
- Equipped with a thermostatically controlled Heater system and a sustaining Air Circulation Fan, the FusionDome™ allows efficient dome views during every season
- Comes standard with wall mount; optional pendant mount available
- Meets IP66 standards for dust and water penetration (pendant mount)
- Indoor and outdoor models; outdoor models include two heaters and blowers
- Great for monitoring applications: parking lots, high crime areas, schools

SPECIFICATIONS	
Models	**Description**
RHW75C2N	IP network ready 7" vandal resistant outdoor dome housing with wall mount, rugged aluminum top and polycarbonate clear dome, with 24Vac input, Heater / Blower, for an IP network PTZ camera, 120 to 24Vac transformer
IRHP75TN	Indoor version of the RHW75C2N and has no electronics
RHW75C12N	12Vdc version of the RHW75C2N
RHW75CF2N	IP network ready 7" vandal resistant outdoor dome housing with wall mount, rugged cast aluminum top and polycarbonate clear dome, with 24Vac input, Heater / Blower, for an IP network fixed camera, 120 to 24Vac transformer
IRHP75TF	Indoor version of the RHW75CF2N with no electronics
GENERAL	
Dimensions (H x W x D):	14.7" x 8.2" x 14.5" (374 x 208 x 369mm)
Weight:	13 lbs. (6 kg.)
Construction:	TOP: 3mm engineered plastic • DOME: Polycarbonate
Mount Bracket:	Aluminum
Power Requirements:	Standard Outdoor Model: 24Vac 52W • Network Outdoor Model: 24Vac, 80W (includes 50W for heater)
Operating Temperature:	-40°F to 120°F (-40°C to 49°C)

Pressurized FusionDome

PRODUCT OVERVIEW

Eliminate the negative effects of moisture, dirt, and pollution on valuable camera equipment with the Pressurized FusionDome. The PFDW75 protects your surveillance investment while offering an effective monitoring solution.

Essential for monitoring ocean shore environments, agricultural processing and industrial manufacturing plants, the IP67 rated Pressurized FusionDome is designed to keep most minute foreign objects from entering the enclosure by maintaining constant pressure within the inner housing area, via an inert gas.

PRODUCT SPECIFICATIONS

Available Features

- Constructed of durable engineered plastic to withstand intense levels of solar heat (UL 94-5VA, UV protected)
- IP67 rating: designed to withstand water and dust intake
- Includes both Schrader and pressure relief valves
- Pressurized to 7psi, able to maintain pressure for 2-3 years
- IK10 impact rating
- Universal mounting plate accepts most IP network camera systems (PTZ or fixed), including a model for larger cameras
- Pendant mount standard with optional mounting brackets
- Heater / Blower feature standard

COMPRESSED AIR OR INERT GAS:

Although the Pressurized FusionDome may be purged with common compressed air, utilizing an inert gas like nitrogen provides pressure longevity and reduces the risk of contaminated compressed air in the system

SPECIFICATIONS	
Models	**Description**
PFDW75C2N/AX	The PFDW75C2N is a pressurized dome housing with WM20G gooseneck wall mount, clear dome, 24Vac input, Heater / Blower. Accommodates an IP network PTZ camera, (includes: 120 to 24Vac, 96 watts transformer)
PFDW78C2N	An extended trim ring model for larger cameras with a maximum camera depth of 243.3mm (9.58")
PFDW75CF2N	Pressurized dome housing with WM20G gooseneck wall mount, clear dome, 24Vac input, Heater / Blower, (1) fixed camera bracket (7.5" MCL), 120 to 24Vac, 96W transformer
GENERAL	
Dimensions (H x W x D):	Standard Model: 14.8" x 11.4" x 11.4" (375.9 x 289.5 x 289.5mm) • Larger Model: 15.2" x 11.4" x 11.4" (386 x 289.5 x 289.5mm)
Weight:	11 lbs. (5 kg.)
Construction:	TOP: 0.125" (3mm) engineered plastic • DOME: Polycarbonate
Mount Bracket:	Aluminum
Power Requirements:	24Vac 80W (Heater / Blower 52W)
Dome 12Vdc model:	(Includes 21W for Heater / Blower) + camera
Operating Temperature:	-50°F to 120°F (-45.5°C to 49°C)
Heater Activates at:	60°F (15°C)
Heater Deactivates at:	80°F (27°C)
Effective Projected Area (EPA):	Approx. 0.12 m^2
Operating Humidity:	Up to 100%

SuperDome

PRODUCT OVERVIEW

The SuperDome is a general purpose dome camera housing. This unit is available with either a 12" or 16" dome and comes with a pendant mount. It features a ¼" UV rated, ABS plastic upper dome and a 1/8" cell-cast acrylic lower dome. The 12" model allows two fixed cameras, the 16" unit allows for three cameras.

PRODUCT SPECIFICATIONS

Available Features

- Available with clear or tinted dome
- Optional inner liner available
- Security fasteners standard equipment
- Houses single or multiple fixed cameras
- Optional Heater / Blower

Moog specializes in housings for fixed, multi-camera applications. These configurations offer an inexpensive alternative to Pan / Tilts. The SuperDome™ offers:

- Ability to accommodate up to 3 fixed cameras:
  SDP12 MCL: 8" for 1 camera / 7" for 2 cameras
  SDP16 MCL: 12" for 1 camera / 8" for 2 cameras / 7" for 3 cameras
- Adjustable viewing in many directions
- Easy Installation

NOTE: If the application calls for more than one camera in the unit, an additional FM1 bracket will be needed for each additional camera.

SPECIFICATIONS	
Models	**Description**
SDP12CHB	12" outdoor / indoor fixed camera dome housing. Includes 1 fixed camera bracket; can accommodate up to 2 full-body fixed cameras (FM2). Security fasteners, optional pendant mount, Heater / Blower (included in outdoor models), MCL 7"-8"
SDP16C	16" outdoor / indoor fixed camera dome housing. Includes 1 fixed camera bracket; can accommodate up to 2 full-body fixed cameras (FM2). Security fasteners, optional pendant mount, MCL 10"
SDP16CHB	16" outdoor / indoor fixed camera dome housing. Includes 1 fixed camera bracket; can accommodate up to 2 full-body fixed cameras (FM2). Security fasteners, optional pendant mount, Heater / Blower (included in outdoor models), MCL 10"
GENERAL	
Power Source:	24Vac
Power Consumption:	52vA (camera not included)
Pan / Tilt Power Consumption:	16vA (Max.) - .625 Amps P/T
Maximum Load:	5 lbs. balanced
Weight:	3.25 lbs. (1.47 kg.)

Each unit in the SuperDome™ general purpose, outdoor housing series shall be equipped with a pre-attached, optional pendant mount, and shall be available with either a 12"or 16" clear or tinted (1 F-stop light reduction) lower dome made from 1/8" cell-cast acrylic. The upper dome shall be ¼" ABS plastic. Optional items shall include: 24Vac, 2.08 Amp heater and surge protector; 24Vac, 16 Amp blower and surge protector, or Heater / Blower combination; 355 integral pre-wired 12° per second.

RM7 / MR7 Recessed Dome Ceiling Housings

RM7

PRODUCT OVERVIEW

The Moog RM7 provides the functionality and security of a low-profile, recessed ceiling mount dome with a rugged vandal resistant construction. Engineered for both indoor and outdoor scenarios, and plenum rated for fire resistant ceilings, the RM7 is ideal for tactical surveillance in urban schools and office / business environments.

PRODUCT SPECIFICATIONS

Available Features

- Vandal resistant, cast aluminum top with a (clear or tinted) polycarbonate lower dome
- Available in both outdoor / indoor models. Outdoor models include Heater / Blower systems to maintain camera temperature and eliminate condensation
- IP Network models available with internal power / supply providing 12Vdc power for camera and external 110Vac power supply that provides 24Vac to the dome
- Includes a decorative trim ring with safety lanyard and captive security fasteners
- Easy installation and servicing from below the ceiling or overhang
- Compatible with most major camera manufacturers – fixed and PTZ (MLC 7.5" 190.5mm)
- Housing extends only 4.7" (119.4mm) below ceiling
- Designed to be water and dust tight, IP66
- UL File Number: E306312

MR7

PRODUCT OVERVIEW

Moog MR7 is a low-profile, indoor, recessed, ceiling mount dome housing. It features a 7" (177.8mm) dome that accommodates standard-body fixed cameras up to 8" (203.2mm) in length or PTZ cameras (see compatibility chart). For fixed models, an opaque liner hides the direction of the camera in both the clear and tinted domes. The upper body is made of steel, and a white powder coat trim ring gives the MR7 a clean, streamlined look.

PRODUCT SPECIFICATIONS

Available Features

- Housing extends only 3.5" (88.9mm) below ceiling
- Camera can be mounted on either side of the fixed mount camera bracket
- Includes a decorative trim ring with quick-release pressure springs
- Plenum rated for non-fire resistant ceilings
- Units available with either clear or tinted domes
- UL File Number: E106941 and E306312

FIXED

- Accepts standard body fixed camera and lens [up to 8" (203.2mm) in length}
- Includes black liner with pre-cut viewing window

PTZ

- Accepts many network PTZ cameras

SPECIFICATIONS	
Models	**Description**
RM7C2N	IP network compatible housing for PTZ network cameras, 24Vac input, 18/12Vdc output for camera, clear dome, Heater / Blower, and 110Vac wall transformer
IRM7TN	IP network housing for PTZ network cameras, tinted dome
RM7CF2N	IP network compatible housing for fixed network cameras, 24Vac input, 18/12Vdc output for camera, clear dome, Heater / Blower, 110Vac wall transformer, MCL 7.5"
IRM7TF	Analog camera housing for fixed camera, tinted dome
MR7TL	7" (177.8mm) recessed ceiling mount dome housing, tinted dome, plus (1) fixed camera bracket, and decorative trim ring, includes liner; MCL 8" (Maximum Camera Length 203.2mm)
MR7TN	IP network ready 7" (177.8mm) recessed ceiling mount dome housing, tinted dome, for an IP network PTZ camera, includes trim ring
GENERAL	
Dimensions (H x W x D):	RM7: 11.2" x 11.2" x 11.5" (284 x 284 x 292mm) • MR7: 9" x 11" x 12.25" (230 x 280 x 312mm)
Weight:	10 lbs. (4.6 kg.)
Consumption:	Back Box: (RM7) 10-gauge aluminum (MR7) 18-and 20-Gauge Steel • Trim Ring: (RM7) Die-cast aluminum (MR7) 19-Gauge Steel Dome: Polycarbonate • Body: (MR7) Steel
Outdoor Model:	(RM7) 24Vac 27W (va)
Operating Temperature:	(RM7) -20˚F to 120˚F, Outdoor Model: -29˚C to 49˚C • (MR7) 32ºF to 120ºF (0°C to 49°C)

Video Accessories

Poles and Lowering Devices	Mounts and Brackets	Additional Accessories	Positioner Accesories
P1600 and P1800. 75	Brackets and Mounts. 77	Surge Protection. 80	Positioners. 86
PolEvators. 76	Dome Mount Adaptors. 78	IP Reset. 81	
	Dome Brackets / Parapet Mounts. . . .79	IR Illuminators. 82	
		Nitrogen Fill Kit. 83	
		Cables. 84	
		Coiled Cables. 85	

P1600 and P1800

PRODUCT OVERVIEW

Pole mounted video surveillance offers several monitoring benefits, but at the same time can turn into installation nightmares and service headaches due to faulty pole construction and picture/video distortion. To counter these frustrations, Moog offers its line of video surveillance rated steel poles.

Constructed of heavy-gauge steel, Moog surveillance poles are engineered with the sole purpose to enhance video surveillance. Capable of supporting up to 75 lbs and withstanding wind gusts of up to 170 mph, Moog poles are ideal for optimizing your video surveillance system.

PRODUCT SPECIFICATIONS

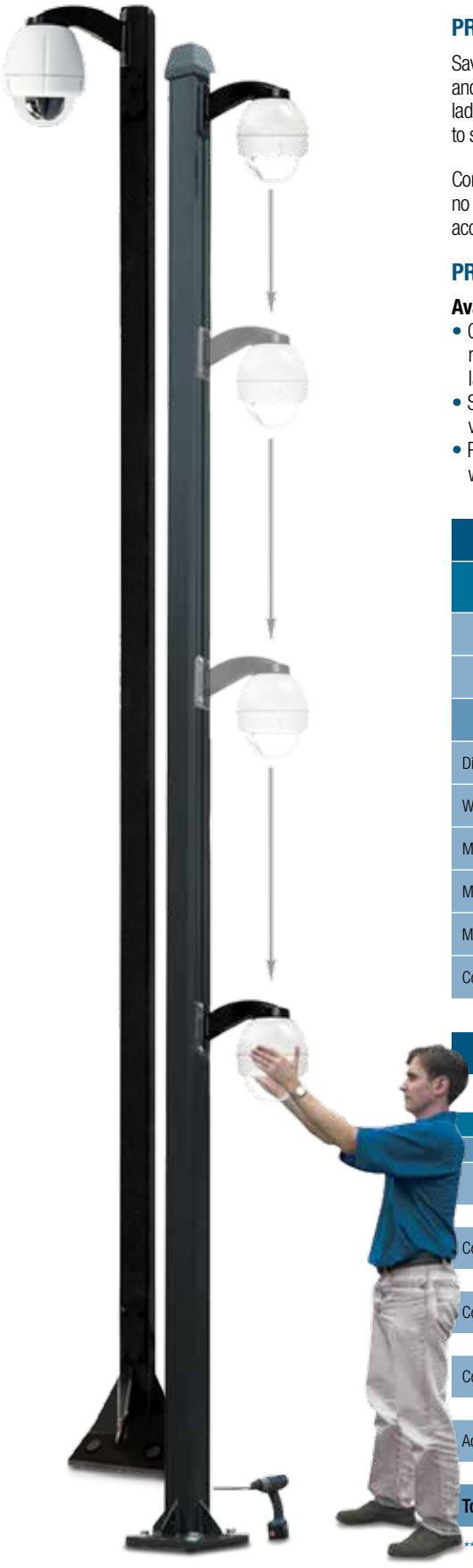
Available Features

- Designed specifically for video surveillance camera systems
- Solid construction; designed to reduce or eliminate vibration from strong wind loads up to 170 mph
- Compatible with most major camera manufacturers (Contact a Moog associate for appropriate mounting brackets)
- Powder coat finish for greater longevity
- Supports up to 75 lbs

SPECIFICATIONS		
Models	**Description**	
P1600	Standard 16’ steel pole (4” x 4” tubing) with access panels on top and bottom, square base with a maximum load of 75 lbs	
P1800	Moog designed a solid construction 16’ steel pole with 2’ transformer base NEMA enclosure. Base includes terminal strip, 115Vac to 24Vac transformer and surge protection	
P1800TB	P1800 without NEMA Box or electronics	
GENERAL		
Construction:	Steel	
Max. Wind Capacity:	35 lbs. at 12u (Max.)	
Max. Wind Load:	170 mph (16’ pole without base. Up to 3 cameras)	
	P1600	**P1800**
Weight + Base:	155 lbs. (70.3 kg.) + 34 lbs. (15 kg.)	200 lbs. (90.72 kg.) + 34 lbs. (15 kg.)
Max. Housing Height:	15.5’ raised / 5’ lowered’	17.2’ raised / 6.7’ lowered

Call Moog for complete dimensional information on separately boxed items.

PolEvators



PRODUCT OVERVIEW

Save money, time and labor with the innovative Moog PolEvator. One technician, using a standard drill, can quickly, easily and safely service or repair pole-mounted cameras without the need for high-reach devices, such as bucket trucks, ladders or multiple technicians. With its unique, patented, self-lubricating lowering mechanism, the Moog PolEvator is built to smoothly lower its payload to ground level yet withstand harsh outdoor conditions.

Constructed of extruded aluminum, the PolEvator is designed to withstand high wind gusts of 150mph, resulting in little to no picture distortion. Available in 16' or 18' models, the PolEvator accepts a wide range of cameras and video surveillance accessories.

PRODUCT SPECIFICATIONS

Available Features

- Cost-effective solution eliminates the need for renting expensive bucket trucks and reduces labor requirements
- Solid construction; designed to reduce or eliminate vibration from strong wind loads up to 150mph
- Patented, self-lubricating lowering mechanism, withstands many up-down iterations
- Factory wired plug n' play, includes power, video and data connections
- Compatible with most major camera manufacturers. (Contact a Moog associate for appropriate mounting brackets)
- Increases safety for technicians and surroundings
- US Patent #6,447,150 B1

SPECIFICATIONS		
Models	**Description**	
PV16N	16' Free-standing aluminum pole complete with universal mounting plate, flexible shaft lowering tool, lifting plate, power and data connections and video input	
PV18N	PV16N with 2' transformer base. Base includes NEMA box, terminal strip, 115Vac to 24Vac transformer and surge protection for video / data	
GENERAL	**PV16N**	**PV18N**
Dimensions:	16 feet height: (4.75" x 4.75" Pole + 12" x 12" Base)	18 feet height: (4.75" x 4.75" Pole + 13" x 13" Base)
Weight:	155 lbs. (70.3 kg.)	200 lbs. (90.72 kg.)
Max. Housing Height:	15.5' raised / 5' lowered'	17.2' raised / 6.7' lowered
Max. Wind Capacity:	35 lbs. at 12u (Max.)	
Max. Wind Load:	150mph	
Construction:	Extruded aluminum	

Cost Savings with the PolEvator:

With the PolEvator's patented, self-lowering capabilities you will save on high costfees associated with servicing pole mounted surveillance systems.

Invoice	
Item	**Unit Price**
Bucket Truck	$ 975.00
(Average service calls per year – 3; average daily truck rental - $325)	
Cost of Technicians	$ 120.00
(Most jobs require at least two technicians for safety reasons. $20/hr x 3 visits x 1 hr / visit x 2 techs)	
Cost of Slower Response Time	$ 250.00
(Delays in scheduling can result in substantial loss of revenue from the service)	
Cost of Training	$ 15.00
(Some facilities require personnel operating bucket trucks to be trained)	
Administrative Costs	$ 150.00
(Scheduling of personnel, paperwork required for insurance and / or government purposes, etc)	
Total Yearly Cost Estimate**	**$1,510.00**

*** NOTE: This is an estimate based on focus groups and industry information. Costs may vary with location and other factors.*

Brackets and Mounts

PRODUCT OVERVIEW

Moog offers a diverse portfolio of mounts and brackets that are designed to the exacting quality standards of Moog for use anywhere, including outdoor, harsh environments. Specification and engineering test data for all Moog products are available upon request. Custom designs and specific client requests should be directed to a Moog sales person.

SPECIFICATIONS	
Model	**Description**
WM800	Medium-duty steel wall mount bracket, Max. load 20 lbs.

- 12-gauge steel
- Designed for mounting to a flat wall or round pole (larger than 3.5" diameter)

SPECIFICATIONS	
Model	**Description**
WM1A	Adapter plate for WM800 and WM800IR, for use with PolEvator™ and outdoor aluminum brackets

SPECIFICATIONS	
Model	**Description**
WM10SS	10" (257mm) 316L Stainless steel wall mount with 1.5" NPT threaded connection for EXO Series Cameras, and other dome enclosures

Dome Mount Adapters

PRODUCT OVERVIEW

Moog offers an array of diverse mounts and brackets to complement our dome camera housings. These mounts and brackets allow the dome enclosures to fit a variety of applications.

SPECIFICATIONS	
Part Number	Description
ACA2	Aluminum corner mount bracket with female inserts (black)
ACA2W	Aluminum corner mount bracket with female inserts (white)

- Durable powder coat finish
- All aluminum construction
- Threaded bolt inserts to make installation easier and quicker
- 75 lbs. load rating

SPECIFICATIONS	
Part Number	Description
APM3	Aluminum pole mount bracket with female inserts (black)
APM3W	Aluminum pole mount bracket with female inserts (white)

SPECIFICATIONS	
Part Number	Description
APM6	Aluminum pole / wall mount adapter with pole straps (black)
APM6W	Aluminum pole / wall mount adapter with pole straps (white)

- Mounts to poles 3"- 6" dia. with included pole straps (2)
- Conduit holes on sides with (2) knockouts on the back
- 25 lbs. load rating
- Threaded bolt inserts to make installation quicker and easier
- Durable powder coat finish
- Sealed junction box for terminating wires

SPECIFICATIONS	
Part Number	Description
CA15	Ceiling mount adapter, with junction box, includes 1½" NPT

Dome Brackets / Parapet Mounts

PRODUCT OVERVIEW

Moog offers an array of diverse mounts and brackets to complement our dome camera housings. These mounts and brackets allow the dome enclosures to fit a variety of applications.

SPECIFICATIONS	
Model	**Description**
WM20G	Aluminum gooseneck wall bracket (black)
WM20GW	Aluminum gooseneck wall bracket (white)

- Durable powder coat finish
- All aluminum construction
- 1½" pipe thread on end for quick and easy dome mounting
- 60 lbs. load rating

SPECIFICATIONS	
Model	**Description**
WM40W	Wall mount bracket

SPECIFICATIONS	
Model	**Description**
WM30G	Aluminum parapet mount bracket, includes 1½" NPT

- Durable powder coat finish
- All aluminum construction
- 1½" pipe thread on end for quick and easy dome mounting
- 50 Lbs. load rating

SPECIFICATIONS	
Model	**Description**
PRM50G	Heavy-duty aluminum parapet mount bracket with 20" extension, includes 1½" NPT

Surge Protection

PRODUCT OVERVIEW

Extend the life of your electronics, with a surge protector from Moog, the first line of defense when keeping your equipment safe from surges. surge protection lowers the potential for over-heating and frying. Radio frequency interference (RFI) and other forms of electrical interference, such as surges and spikes, are a very common problem in the security industry. Low level signals such as closed-circuit television and associated data links are extremely susceptible to even small disruptions. Our surge protectors employ semiconductor clamping devices which protect against spikes and surges.

SPV050

SPVP110

SPVRJ01

SPECIFICATIONS	
Model	**Description**
SPV050	Coax Video Surge Protection (BNC CONNECTOR)
Reliable protection • Small package • Easy to install	

SPECIFICATIONS	
Model	**Description**
SPVP110	110Vac power surge protection

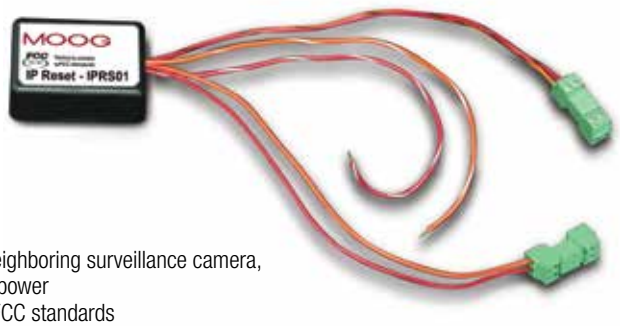
SPECIFICATIONS	
Model	**Description**
SPVRJ01	Data / power over ethernet power / data surge protection

Mechanical Specifications		
Video Input:		**This protects the video line to the camera by means of fast acting diode clamps**
Maximum Video Level:		5.0 Volts/1.0 Volt is normal
Line to Shield Current (Max.):		3000 Amps
Response Time:		1.0 Picosecond
Shield to Ground Current (Max.):		6500 Amps
Frequency Response:		DC to 12 MHz
24Vac Power Input:		**Protects camera and Pan / Tilt power**
Input Voltage (Max.):		40 Volts
Maximum Current:		3.0 Amps
Normal Operating Current:		2.0 Amps
Maximum Surge Current:		4000 Amps
Response Time:		1.0 Picoseconds
Interference Filter:		100 kHz to 25 MHz (noise)
Differential Mode Attenuation:		50.0 dB
Common Mode Attenuation:		30.0 dB
Control Line Input:		**Protects 2 wire control line for Pan / Tilt.**
Maximum Signal Level	AC:	16 Volts - RS-232 has a Voltage of ± 15 Volts
	DC:	25 Volts
Maximum Surge Current	Differential Mode:	2000 Amps
	Common Mode:	4000 Amps
Response Time:		5.0 Nanoseconds
Frequency Response:		DC to 3 MHz

IP Reset

PRODUCT OVERVIEW

Tired of the hassles / inconveniences from IP camera lock ups? Moog innovative IP Reset – IPRS01, provides a systematic solution for IP camera lock ups by monitoring the output of an IP camera's digital signal. Once an interruption is detected, the IP Reset commands the camera to restart, eliminating the need for a manual reset. This simple feature alleviates costly service fees and surveillance down-times generally associated with IP camera lock ups.



PRODUCT SPECIFICATIONS

Available Features

- Eliminate costly service fees and surveillance down time from IP camera lock ups
- Monitor digital signal and automatically restarts camera when interruption is detected
- Discrete design fits into most camera housings
- Shares power from neighboring surveillance camera, no need for separate power
- Complies with latest FCC standards

SPECIFICATIONS	
Model	Description
IP Reset	IP Reset, monitors IP devices (camera, wireless, etc..) and resets power if the device locks up / freezes
Fits into most housings	
Solution for IP camera lock ups. Save from costly service fees and down times.	

Infrared Illuminators

PRODUCT OVERVIEW

The IR200-36 and IR100-36N infrared illuminators enhance video surveillance for all low light applications. Constructed of a lightweight, rugged, weather-resistant material, the IR200-36 and IR100-36N are capable of illuminating multiple distances and angles with a simple switch. Adjust the beam angle to 30°, 45°, or 60° and manipulate the power setting to illuminate variable distances to control camera washouts / hot spots. For more covert surveillance applications, the IR100-36N operates at 940 nanometer wavelength, making the LED untraceable to the human eye.

Equipped with advanced LED technology, that requires low power and offers a 20,000-hour lifespan, Moog offers two fully adjustable IR illuminators that come backed by an impressive five year warranty.

PRODUCT SPECIFICATIONS

Available Features

- Fully adjustable – one model for all applications
- Adjustable beam angle: 30°, 45°, or 60°
- Adjustable IR power setting for illuminating various distances and / or compensating for camera hot spots
- Light sensor automatically activates or deactivates IR
- Low power requirements: 24Vac or 18-30Vdc
- 940 nanometer for covert surveillance; LEDs untraceable by the naked eye (IR100-36N Only)
- Automatic fan for heat dissipation
- Surge protection, user replaceable fuse
- Optional brackets and mounts available
- LED technology: 20,000 hour life cycle
- Full five year warranty

SPECIFICATIONS	
Model	**Description**
IR200-36	Fully adjustable infrared illuminator – 850 nanometer beams. Multiple beam angles: 30°, 45°, 60° and projection distances up to 330 feet (100 meters) depending on camera. Includes surge protection and automatic fan for heat dissipation

SPECIFICATIONS	
Model	**Description**
IR100-36N	Fully adjustable infrared illuminator – 940 nanometer beams for covert surveillance (untraceable by human eye). Multiple beam angles: 30°, 45°, 60° and projection distances up to 330 feet (100 meters) depending on camera. Includes surge protection and automatic fan for heat dissipation

WHAT ARE INFRARED ILLUMINATORS?

For surveillance applications where light is not sufficient, i.e. night-time scenarios, an infrared illuminator is strongly recommended for enhancing your view of sight. Composed of multiple light emitting diodes (LEDs), the infrared illuminators produce an infrared beam of light that when paired with either a Day / Night or black and white camera will illuminate the surrounding area for increased visibility.

ADJUSTABLE IR BEAM ANGLE: 30º, 45º OR 60º:

Benefits of a Fully Adjustable IR:

- Expand or decrease illumination parameters with a simple switch. Ideal for temporary video surveillance adjustments
- Power setting adjusts for wash outs / hot spots, resulting in huge cost savings from new cameras or IRs
- Save on costly IR upgrades, due to application surveillance changes

General	
Dimensions (H x W x D):	11.5" x 7.0" x 7.0" (292 x 178 x 178mm)
Weight:	5.25 lbs. (2.4 kg.)
Back Plate:	Aluminum
Trim Ring:	Polycarbonate
Front:	Polycarbonate
Body:	Extruded Aluminum
Power Requirements:	24Vac or 18-30Vdc, 15-45W
Operating Temperature:	-40°F to 120°F (-40°C to 49°C)

Nitrogen Fill Kit

PRODUCT OVERVIEW

The NPT01 is a nitrogen fill kit for pressurized housings. Optional regulator valve available NPK01.

SPECIFICATIONS	
Models	Description
NPT01	Nitrogen Fill Tank
NPK01	Nitrogen Fill Tank Kit

Cables

PRODUCT OVERVIEW

Moog provides a wide range of cable assemblies designed and produced to the same quality specifications as our other products. Common cables are listed below, please contact a Moog representative for special cable needs.

SINGLE ENDED (SE) - IC PAN AND TILT TO POWER SUPPLY/VIDEO COAX/CONTROLLER SPECIFICATIONS			
Part Number	Standard Lengths (in feet)*	Description	
SE - Universal - I		**QPT-20**	**P/T Base Connector**
6-SU132	6, 25, 50, 75, 100, 150	Full 2-Port Universal - I Power /Control / Video Coax (2)	32-Pin
SE - Universal - II		**QPT-50, QPT-90, QMP / QMP-R, QPT-200 / 500 (4 - Port)**	**P/T Base Connector**
6-SU243	6, 50, 75, 100, 150	Full 4-Port Universal - II Power / Control / Video Coax (4) / AUX	43-Pin
SE - Universal - II Lite		**QPT-50, QPT-90, QMP / QMP-R, QPT-200 / 500 (Tilt A)**	**P/T Base Connector**
6-SU2L4	6, 25, 50, 75, 100, 150	Tilt - A and Tilt - B Power / Control / Video Coax (2).	43-Pin
Universal Port		**Universal Port to Payload Cables**	**P/T Base Connector**
6-19269	2	Port A to 16 Shell, 26 - Socket Right Angle	–
6-19193	2	Port D to 20 Shell, 55 Socket Right Angle	–
Outdoor Power Supplies		**For all Outdoor Power Supplies; Terminated with NEMA 5-15P (Standard 3- Pin Wall Plug), and Mil Spec**	**P/T Base Connector**
6-19235-16	16, 50, 100, 300	Cable, Input Power, 115Vac	–

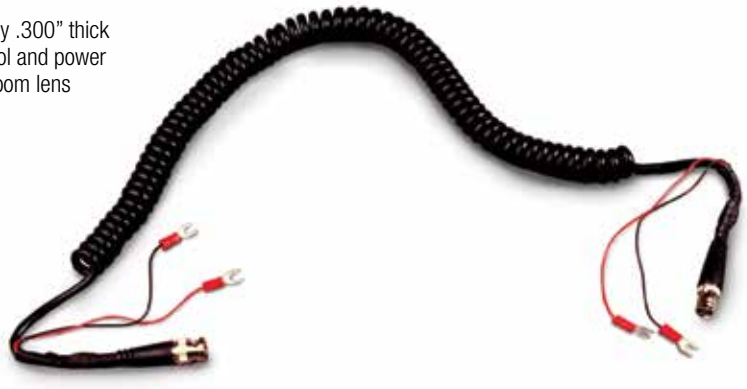
BIFURCATED - IC PAN AND TILT TO POWER SUPPLY/VIDEO COAX/CONTROLLER CABLES SPECIFICATIONS		
Part Number	Description	
Bi - Universal - I	**QPT-20ICM and QPT-20ICMS (A-Control, B-Power)**	**P/T Base Connector**
6-BU132-150-25	150 ft control, 25 ft Power - Full 2-Port Universal - I Power /Control / Video (2)	32-Pin
6-BU132-150-50	150 ft control, 50 ft Power - Full 2-Port Universal - I Power /Control / Video (2)	32-Pin
6-BU132-150-75	150 ft control, 75 ft Power - Full 2-Port Universal - I Power /Control / Video (2)	32-Pin
6-BU132-100-100	100 ft control, 100 ft Power - Full 2-Port Universal - I Power /Control / Video (2)	32-Pin
6-BU132-150-150	150 ft control, 150 ft Power - Full 2-Port Universal - I Power /Control / Video (2)	32-Pin
Bi - Universal - II	**QPT-50, QPT-90, QMP / QMP-R, QPT-200 / 500 (A-Control, B-Power)**	**P/T Base Connector**
6-BU243-150-25	150 ft control, 25 ft Power - Full 4-Port Universal - II Power / Control / Video Coax (4) / AUX	43-Pin
6-BU243-150-50	150 ft control, 50 ft Power - Full 4-Port Universal - II Power / Control / Video Coax (4) / AUX	43-Pin
6-BU243-150-75	150 ft control, 75 ft Power - Full 4-Port Universal - II Power / Control / Video Coax (4) / AUX	43-Pin
6-BU243-100-100	100 ft control, 100 ft Power - Full 4-Port Universal - II Power / Control / Video Coax (4) / AUX	43-Pin
6-BU243-150-150	150 ft control, 150 ft Power - Full 4-Port Universal - II Power / Control / Video Coax (4) / AUX	43-Pin
Bi - Universal - II Lite	**Tilt A and Tilt B Ports for QPT-50, QPT-90, QMP / QMP-R, QPT-200 / 500**	**P/T Base Connector**
6-BU2L4-150-25	150 ft control, 25 ft Power - Tilt - A and Tilt - B Power / Control / Video Coax (2).	43-Pin
6-BU2L4-150-50	150 ft control, 50 ft Power - Tilt - A and Tilt - B Power / Control / Video Coax (2).	43-Pin
6-BU2L4-150-75	150 ft control, 75 ft Power - Tilt - A and Tilt - B Power / Control / Video Coax (2).	43-Pin
6-BU2L4-100-100	100 ft control, 100 ft Power - Tilt - A and Tilt - B Power / Control / Video Coax (2).	43-Pin
6-BU2L4-150-150	150 ft control, 150 ft Power - Tilt - A and Tilt - B Power / Control / Video Coax (2).	43-Pin

ANALOG PAN AND TILT TO CONTROLLER CABLES SPECIFICATIONS							
Part Number	Standard Lengths (in feet)	Description	Pan and Tilt	Connector		Voltage (Max.)	
				Pan and Tilt	Controller	DC	AC
6-19247	1.5, 10, 25, 100, 125, 200, 250	Cable, Analog, w/ 17 Socket / Pin Plugs	20/50/90/130/200	17- Socket	17 - Pin	115	115

Coiled Cables

PRODUCT OVERVIEW

Our coiled cable system offers flexibility, convenience, and protection. The sturdy .300” thick PVC cable includes BNC male / female connectors, 4 leads for zoom lens control and power connectors. In addition, the VC5 offers additional connections for a motorized zoom lens and / or Pan / Tilt.alve available NPK01.



PRODUCT SPECIFICATIONS

Available Features

- Models available with additional leads to power a motorized zoom lens and / or a Pan / Tilt
- All conductors are inside one environmentally protected jacket
- Sturdy construction of flexible cable reduces cable fatigue and servicing costs
- Cables extend to over three times their original length

SPECIFICATIONS	
Models	Description
VC3 / 4	23” long (6’ extended) cable with BNC male / female video connectors on either side. Includes two conductors for powering low-voltage camera
GENERAL	
Weight:	1 lb
GENERAL	
PVC Black Jacket, .300” O.D.	
Coiled O.D.: 1.125”	
22 g. Camera Power; 3.5” (color coded)	
Video : Male BNC / Female BNC	
Connectors: 6 Butt Splice, Control End	
4 .250 Male / Female Quick-Disconnect, Camera End	
2 Spade Lugs, Camera End (red / black)	
6" Long Tangent Leads (both ends)	
Relaxed Length 23”	
Extended Length 6 ft	

Positioner Accessories

PRODUCT OVERVIEW

Moog provides a wide range of accessories designed and produced to the same quality specifications as our other products. Common accessories are listed below, please contact a Moog representative for additional products.

Video tracking, video stabilization, and video encoding are available.

SYSTEM INTERFACE UNITS SPECIFICATIONS		
Part Number	Description	Application
7-08625-MWS	Power Supply, Video Tracking, and Video IP Encoding	For PVS, PVTS, and PTS Systems
QS51105	Video Tracking with Gyro Stabilization and Radar Slewing	For PVS, PVTS, and PTS Systems

QS VIDEO MARINE SYSTEM SPECIFICATIONS		
Part Number	Description	Application
SM-1110	Stabilization Module Cube with Internal MEMs Gyro.	Mounts GeminEye Positioner, Senses 3-Axis and Provides 2-Axis Stabilization
L-PVU-Console-1	PVU Marine Dash Mount Joystick Controller	Dash Mountable Joystick Controller
6-20124-30	30 Ft Interface Cable Between SM-1110 and C-PVU-Console-1	For SM-1110 and C-PVU-Console-1

ACCESSORY SPECIFICATIONS		
Part Number	Description	Application
Payload Mount Interfaces		
6-21022	Mount, L Bracket for QPT-90ICM Payloads	QS Visible Camera Heads 7-79960-MWS and 7-79968-MWS, thermal payloads
6-21085	Mount, Bore Sight Pan+/-1.4° Tilt+/-1.4°	Compatible with 6-21002 L Bracket
Mounts		
7-17567	Pedestal Mount	Supports GeminEye and QPT-20 systems
7-17564	Wall Mount	Supports GeminEye and QPT-20 systems
7-17565	Pole Adapter (requires addition of wall mount component)	Supports GeminEye and QPT-20 systems
7-17566	Corner Adapter (requires addition of wall mount)	Supports GeminEye and QPT-20 systems
Power Supplies, Outdoor Enclosure, Weather Resistant, Mil Spec Input AC / Output DC Connectors		
7-08964*	Power Supply, Outdoor, Pole Mountable, 24Vdc, 10.2A	For QPT90 /QMP /QMP-R / QPT-50/ QPT-20 Pan and Tilts
7-08801*	Power Supply, Outdoor, Pole Mountable, 48Vdc, 13.0A	For QPT-500 and QPT90 /QMP/ QPT-50 High Speed Pan and Tilts
7-08802*	Power Supply, Outdoor, Pole Mountable, 24Vdc, 14.0A	For QPT90 /QMP / QMP-R / QPT-50 Pan and Tilts
7-08804*	Power Supply, Outdoor, Pole Mountable, 48Vdc, 22.0A	For QPT-500 and QPT90 /QMP / QPT-50 High Speed Pan and Tilts
7-08805*	Power Supply, Outdoor, Pole Mountable, 48Vdc, 22.0A, 110Vac Pass-Through w/ Serial Controlled On/Off Relay	For QPT-500 and QPT90 /QMP / QPT-50 High Speed Pan and Tilts

* Parts are not available in multiple colors

STABILIZATION AND ENCODING CUBES		
Part Number	Description	Application
LT-V1CUBE	Video server, single channel	Single Channel Video Encoder
LT-SMCUBE	Stabilization, w/ MEMs gyro	GeminEye video stabilization
LT-SM1CUBE	Video Stabilization	PVU Controller
LT-SM2CUBE	Video Stabilization	GeminEye video stabilization, RS-422
LT-CCUBE	90° Connector Interface	Provides 90° base connector

Power and Wireless

Power and Wireless

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EcoKit

PRODUCT OVERVIEW

The EcoKit, solar and wind energy generator, provides a green power source for diverse environments where today's camera systems are required. This equipment accommodates a wide range of features including: wireless communication hardware, IP cameras, and edge recording.

Leveraging both solar and wind technology, the EcoKit provides a steady 12Vdc power source to camera systems and peripheral components. Surplus energy is stored in a two-battery backup system that can provide up to five days of continuous power draw*.

The rugged EcoKit thrives in a variety of weather conditions. This geographic versatility coupled with optional cameras, and custom poles yields a green power solution that fits most of today's challenging environments.

PRODUCT SPECIFICATIONS

Available Features

- Green technology converts solar and wind energy to useable 12Vdc power
- Wind turbine provides added charge capacity day or night
- Encapsulated high-grade solar cells resist harsh weather
- Battery storage for up to five days at a continuous 20W load (based on a basic 2 battery system, in a no wind total blackout situation)
- Low maintenance and operating costs
- Compatible with a variety of accessories

* Fully charged batteries

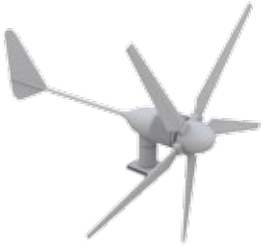
Solar Panel Specifications (Qty. 2)	
Cell:	Monocrystalline Grade "A" Silicon
Dimension (L x W x D):	44" x 32" x 1.4" (1110 x 808 x 35mm) (EACH)
Weight:	26 lbs. (11.8 kg.) (EACH)

Battery Specifications (Qty. 2)	
Nominal Voltage:	12 Vdc
Rated Capacity:	220Ah (110Ah/ Battery)
Dimensions (H x W x D):	9.0" x 9.5" x 6.8" (520 x 270 x 173mm)
Weight:	72.75 lbs (33 kg.) (each)
Capacity:	Up to 5-day battery backup (fully charged) (@20W continuous draw)

Output to 12Vdc Device Specifications (Camera)	
Voltage:	12Vdc
Power:	Up to 20W

EcoKit	
Unit Shipping Weight:	400 lbs (181.44 kg.)

Advanced Battery-Backup, Wind Turbine and Solar Cell Technology Features:



Wind Turbine:
A wind turbine adds charge capacity.

Solar Cell Technology:
Two monocrystaline Grade A photovoltaic cells deliver efficiency. Panel life expectancy is 20+ years.

Power Supply Source:
Two battery backup system, sized to provide up to 5 day continuous energy supply at 20W, in a no wind total blackout situation.

Battery Enclosure:
Lockable weather proof pole / wall mount enclosure protects batteries, voltage stabilizer, and easy access door-mounted controller.

PB24 Power Boxes

PRODUCT OVERVIEW

Moog offers an extremely versatile, PB24 Series of UL approved outdoor rugged power boxes to provide an economical solution for supplying your video surveillance system with electrical current. Incorporating a vandal-resistant design, the rugged cast aluminum NEMA4 box enclosure meets IP66 standards to prevent the ingress of minute particles. The PB24 outdoor power box series mounts directly to a Moog FusionDome™ (FDW housings), Vandal Resistant Dome (RHW housings).

Moog power boxes are available in two distinct model classes. Each model incorporates several innovative accessories focused on better optimizing your video surveillance system via standard and signal converters.

PRODUCT SPECIFICATIONS

Available Features

- Available in three model classes: Standard and Signal Converters
- Mounts directly to Moog outdoor wall mount housings
- Provides 4 amps of power at 24Vac
- Designed for direct conduit connections
- Pole-mounting clips included
- Provides four amps of power at 24Vac
- Designed for direct conduit connections
- Mounts directly to Moog outdoor wall-mount housing
- Meets IP66 standards to prevent the ingress of minute particles and liquids

SPECIFICATIONS	
Models	Description
PB24	Standard Power Box: 220/115Vac input converting to 24Vac and 96W output power

- No programming necessary
- Save on costly cabling fees
- Benefit from the versatility of an IP network system
- EOF2N: Transmit Ethernet data through high-speed fiber optic cable

SPECIFICATIONS	
Models	Description
PB24 + EOF2N	Transmit Ethernet data through high-speed fiber optic cable
PB24FM-SC	* Will need and EOF2N for termination side if fiber

GENERAL			
Dimensions (H x W x D):	8.75" x 7.82" x 3.92" (222.3 x 198.6 x 99.6mm)	Power Consumption:	1-Amp (120W) at 120Vac
Weight:	10 lbs. (4.54 kg.)	Power Input:	120Vac or 240Vac, 50 / 60Hz
Power Output:	PB24: 96va (96W)		

PB26 Power Boxes

PRODUCT OVERVIEW

Moog offers the PB26 Series of outdoor power boxes provide an economical solution for supplying your camera system with electrical current, while offering ample space for the inclusion of additional user electronics.

Constructed out of an steel NEMA box enclosure, the PB26 Series has been designed to complement a variety of Moog wall mount camera housings / domes by simply bolting to the wall mount back. This simple yet effective design reduces installation and servicing times. Available in two distinct model types: Standard and Wireless.

PRODUCT SPECIFICATIONS

Available Features

- Provides 4 amps of power at 24Vac (220 / 115Vac input converting to 24Vac and 96W output)
- Designed for direct conduit connections
- Pole mounting clips included
- Provides adequate space for additional user electronics
- Mounts directly to Moog outdoor wall mount camera enclosures

SPECIFICATIONS	
Models	**Description**
PB26	Outdoor power box with 220 / 115Vac input converting to 24Vac and 96W output. Ample space to include additional user electronics
GENERAL	
Dimensions (H x W x D):	9.863" x 4.048" x 14.32" (251 x 103 x 364mm)
Weight:	19 lbs. (8.6 kg.)
Consumption:	Back Box: Steel
Operating Temperature:	-20°F to 120°F (-29°C to 49°C)
Cellular Broadband Modem	
Network Compatibility:	IEEE 802.3u compliant Cable and DSL modems with dynamic IP, static IP, PPPoE, PPTP, L2TP connection types
Buttons / Switches:	SGNL (signal strength display), Reset button Configuration mode / IP Pass-Through mode
LED Indicators:	Power, Ethernet LAN Status, USB Modem, Express Card Modem Signal Strength

MIMO Wireless

PRODUCT OVERVIEW

Moog Outdoor Wireless Solutions provide dual point-to-point / point-to-multi-point wireless surveillance flexibility in one package. An outdoor rugged Power Box, a MIMO (Multiple-Input-Multiple-Output) transmitter/receiver, and system setup software comprise the complete solution set. Utilizing revolutionary MIMO technology, Moog wireless kits employ multiple signal paths to address the channel limitations and multi-path fading associated with earlier wireless technologies. The result: high- throughput, via a reliable and cost effective wireless solution.

PRODUCT SPECIFICATIONS

Available Features

- Easy installation and setup
- Flexible deployment options
- Pole mount hardware included
- Wireless transmitter / receiver for IP cameras
- 120° sectional antennae (provided with receiver)
- Supports up to 150+ Mbps real TCPI / IP
- 300+ subs per receiver
- Low latency

CONSIDER THE LINE-OF-SITE (LOS) AND THE FRESNEL ZONE:

The illustration below demonstrates the properties of 5.8GHz vs. 2.4GHz. Simply put, 5.8GHz is a tighter band meant for greater distances, while 2.4GHz is less constricted by LOS but typically covers shorter distances

SPECIFICATIONS							
Models	Description						
PB24M24	Rugged outdoor wireless box with a 110Vac (220Vac U.K.) input and 24Vac output for camera. Fuse protected with a wireless 2.4GHz MIMO transmitter. Directional antenna						
PB24M58	Rugged outdoor wireless box with a 110Vac (220Vac U.K.) input and 24Vac output for camera. Fuse protected with a wireless 5.8GHz MIMO transmitter. Directional antenna						
VLRM24	Wireless 2.4GHz MIMO access point, 110Vac input and 24V output						
VLRM58	Wireless 5.8GHz MIMO access point, 110Vac input and 24V output						
2.4GHZ / 5.8GHZ (PB24M TRANSMITTER)				**2.4GHZ / 5.8GHZ (VLRM) RECEIVER**			
Dimensions:	11.6" x 3.1" x 1.2" (29.4 x 8 x 3cm)			6.3" x 3.1" x 1.1" (16 x 8 x 3cm)			
Weight:	0.88 lbs. (0.4 kg.)			1.1 lbs. (0.5 kg.)			
Enclosure Characteristics:	Outdoor UV Stabilized plastic						
Power Method:	Passive Power over Ethernet (pairs 4, 5+; 7, 8 return)						
Operating Temperature:	-30°C to 75°C						
Operating Humidity:	5 to 95% Condensing						
Shock and Vibration:	ETSI300-019-1.4						
Power Supply	2.4GHz:	24V, 0.5A surge protection integrated PoE adapter included	5.8GHz:	15V, 0.8A surge protection integrated PoE adapter included	24V, .5A PoE supply included		
Max. Power Consumption:	8 Watts				2.4GHz:	6.5 Watts	5.8GHz: 8 Watts
	2.4GHz	**5.8GHz**			**2.4GHz**	**5.8GHz**	
Frequency Range:	2.41-2.46 GHz	5.74-5.82 GHz			2.41-2.46 GHz	5.74-5.82 GHz	
Gain:	10.4-11.2 dBi	14.6-16.1dBi			15.0-16.0	15.0-16.0dBi	
Polarization:	Dual Linear						
Cross-pol Isolation:	23dB minimum	22dB minimum			28dB minimum	22dB minimum	
Max. VSWR:	1.6:1				1.5:1		
Hpol Beamwidth (6dB):	55°	43°			123°	137°	
Vpol Beamwidth (6dB):	53°	41°			118°		
Elevation Beamwidth:	27°	15°			9°	8°	

Please refer to the PB24 section for product specifics

Video Controllers and Interfaces

Moog S3 analog and digital interface controllers are designed to access and control all functions of our line of Pan and Tilt positioners.

Our digital controllers can also interface with many state-of-the-art sensor payloads. The Unicom® is designed to control our full line of serial digital RS-232 / RS-422 / RS-485 based positioners including Ethernet (IP) networked systems.

The Unicom® LT was designed specifically to control our GeminEye line of positioners, but also can control our serial digital RS-232 / RS-422 / RS-485 based positioners for less complex and lower cost applications.

We also provide advanced video tracking systems designed to allow you to zoom in and precisely track distant boats, aircraft, vehicles or people with our systems.

When your applications require consolidated and versatile control, Moog provides a state-of-the-art Graphical User Interface for our IC products. Highly customizable and expandable, our GUI provides remote access to positioners and camera feeds, with real-time operation and video feed at the convenience of a centralized location.

GUI's	Controllers	Software	Monitors
Moog PTZ Controller. 93	Analog / Pan & Tilt Contoller. 95	GEM-2003. 98	IM-CT Series. 99
Video Tracking Systems. 94	QuickTrac. 96		
	Unicom / Unicom LT. 96		
	RS-485 Controller. 97		

Moog PTZ Controller

GRAPHICAL USER INTERFACE PRODUCT OVERVIEW

When your applications require consolidated and versatile control, Moog provides a state-of-the-art Graphical User Interface for IC products. Highly customizable and expandable, our GUI provides remote access to positioners and camera feeds, with real-time operation and video feed at the convenience of a centralized location.

PRODUCT SPECIFICATIONS

Available Features

- Full 'Node' Control
- Pan / Tilt Control
- Pan / Tilt Setting and Configuration
- Camera and Lens Control
- Video display of multiple streaming video feeds (**NOTE: Video display is available on Windows-based installations only at this time)
- Tours managed in the application and Tours managed in the pan / tilt
- User Configurable Look and Feel
- User selectable views
- User selectable colors, fonts, and font sizes
- User definable layout

GUI SPECIFICATIONS	
Part Number	Description
S-11000	Moog Graphical User Interface

Video Tracking Systems

PRODUCT OVERVIEW

We provide a multitude of advanced video tracking techniques designed to allow you to zoom in and precisely track distant boats, aircraft, vehicles or people. Examples of the tracking techniques include traditional contrast and correlation algorithms, and specially designed algorithms for tracking boats on the water and airplanes in the sky. In all cases, the objective is to zoom in and automatically follow the object of interest precisely.

VIDEO TRACKING ALGORITHMS

- Hottest Spot
- Dynamic Centroid
- Dynamic Correlation
- Ground Vehicle / Boat Tracking
- Ground to Air/Air to Ground Tracking
- Scene Lock
- Threshold Tracking
- Motion Tracking
- Motion on Motion Tracking

MULTI-FUNCTION UNIT PROVIDES THE FOLLOWING CAPABILITIES:

- Precision video tracking (on switchable Visible or Thermal video signals)
- AC-to-DC power converter for 24Vdc @ 20 amps (Max.) for Pan / Tilt / Payload power
- Video over IP for up to 4 video signals
- IP control data interfacing to Moog Pan / Tilt based surveillance nodes
- Serial interface for: pan/tilt, visible camera, thermal imager, and other optional payloads

OPTIONAL FEATURES FOR MARITIME APPLICATIONS:

- Rugged Joysrick Controller: Splash proof joystick controller (dash-mount or handheld models available)
- Radar Slew-toCue: Automatically slews the camera to marine radar contacts (ARPA targets).
- Gyro Stabilization: 2-axis stabilization maintains a target in a 3 degree FOV image while the host vessel undergoes up to +/- 20 degrees of pitch/roll motion and 360 degrees of yaw motion.

PAN/TILT NODE INTERFACE

DC Output Power / Video / Serial Data Control Connector:

- Mil – Spec Receptacle, 43 Socket,28 Shell -CT2-28-21-SS provides interfacing to the following:
  - Dual NTSC / Pal input from video sensors. (switchable to provide tracking mode in visible or thermal video)
  - Pan/Tilt Control (RS-422)
  - Individual camera (or other payload) serial data control (RS-422)
- 24Vdc power for Pan / Tilt node operation
- Control / Video Data Network Interface Mil-Spec RJ45 Receptacle for IP Control, Video Data, and Video Tracking Communication to Control / Monitor site Local Video and Serial Connections Two local video server input (BNC) connections. Interface for local RS-422 control communication (Mil-Spec receptacle,15 socket, 14 Shell) Environmental
- Designed for IP-66 use
- Temp Range: -15C to +55°C (Storage); -15C to +40C (Operating)

Controllers

PRODUCT OVERVIEW

Moog offers a variety of controllers for analog and IC systems.

Analog

Standard analog controllers are a cost-efficient solution for primarily AC and 115Vdc powered analog pan and tilts. Low voltage DC solutions are also available.

QuickTrac® Controllers are the versatile solutions from Moog for low voltage (12 and 24Vdc) powered analog pan and tilts.

IC

Unicom®-LT Controllers are the cost-efficient solution for primarily one-to-one pan and tilt and payload communicaton. If networked pan and tilt or system control is desirable, use the Unicom Controller.

ANALOG CONTROLLERS SPECIFICATIONS

Part Number	Description	Pan and Tilt	Joystick	Rack-mount	Connector	Voltage Input	Output		Meters	
							DC	AC	Azimuth	Elevation
12Vdc Output										
C124212	Controller, 12Vdc/12Vdc Prop. Speed, No Meters	20/50	Joystick	1/2 Rack	17 - Pin	12Vdc	12	–	–	–
24Vac Output										
C151111	Controller 115Vac/24Vac, Non-variable Spd.	20/90	Joystick	Tabletop	17 - Pin	115 / 120Vac	–	24		
C173431	Controller 115-240Vac/24/120Vac, Non-variable Spd. ,Meters	200/500	Joystick	Full	17 - Pin	120 / 240Vac	–	24 / 120	X	X
C162421	Controller 240Vac/115Vac, Non-variable Spd., A/Z Meters	90/130	Joystick	Full	17 - Pin	240Vac	–	115	X	X
C173421	Controller 120-240Vac/24 / 120Vac, Non variable Spd.A/Z Meters	90/130	Joystick	Full	17 - Pin	120 / 240Vac	–	24 / 120	X	X
115Vdc Output										
C167212	Controller 220-240Vac/115Vdc, Prop Speed, No Meters	90/130	Joystick Plug	1/2 Rack	17 - Pin	220 - 240Vdc	115	–		
C157422	Controller 120Vac/115Vdc, Prop Speed, A/Z Meters	90/130	Joystick	Full	17 - Pin	120Vdc	115	–	X	X
C167422	Controller 220-240Vac/115Vdc, Prop Speed, A/Z Meters	90/130	Joystick	Full	17 - Pin	220 - 240Vdc	115	–	X	X
C167432	Controller 220-240Vac/115Vdc, Prop Speed, A/Z Meters	200/500	Joystick	Full	17 - Pin	220 - 240Vdc	115	–	X	X
C177212	Controller 115/220-240Vac/115Vdc, Prop Speed	200/500	Joystick	1/2 Rack	17 - Pin	115 / 220-240Vdc	115	–		
C177422	Controller 120Vac/115Vdc, Prop Speed, A/Z Meters	90/130	Joystick	Full	17 - Pin	115 / 220Vdc	115	–	X	X
C177432	Controller 120Vac/115Vdc, Prop Speed, A/Z Meters	200/500	Joystick	Full	17 - Pin	115 / 220Vdc	115	–	X	X

ANALOG PAN AND TILT TO CONTROLLER CABLES SPECIFICATIONS

Part Number	Description	Pan and Tilt	Connector		Voltage (Max.)		Standard Lengths (in feet)
			Pan and Tilt	Controller	DC	AC	
6-19247-1.5	Cable, Analog, w/ 17 Socket / Pin Plugs, , 1.5ft.	20/50/90/130/200	17- Socket	17 - Pin	115	115	1.5, 10, 25, 100, 25, 100, 125, 150, 200, 250

QUICKTRAC® CONTROLLERS SPECIFICATIONS										
Part Number	Description	Pan and Tilt	Joystick	Rackmount	Connector	Voltage Input	Output		Meters	
							DC	AC	Azimuth	Elevation
12Vdc Output										
C102	Controller 12Vdc/12Vdc Prop Speed	20/50/90	Joystick Plug	Full / 1/2 Rack	17 - Pin	12Vdc	12	NA		
C107	Controller 12Vdc/12Vdc Prop Speed A/Z Meters	20/50/90	Joystick Plug	Full / 1/2 Rack	17 - Pin	12Vdc	12	NA	X	X
C322	Controller 115Vac/12Vdc Prop Speed	20/50/90	Joystick Plug	Full / 1/2 Rack	17 - Pin	115Vdc	12	NA		
C327	Controller 115Vac/12Vdc Prop Speed	20/50/90	Joystick Plug	Full / 1/2 Rack	17 - Pin	115Vdc	12	NA	X	X
C422	Controller 230Vac/12Vdc Prop Speed	20/50/90	Joystick Plug	Full / 1/2 Rack	17 - Pin	230Vdc	12	NA		
C427	Controller 230Vac/12Vdc Prop Speed A/Z Meters	20/50/90	Joystick Plug	Full / 1/2 Rack	17 - Pin	230Vdc	12	NA	X	X
24Vdc Output										
C202	Controller 24Vdc/24Vdc Prop Speed	20/50/90/130	Joystick Plug	Full / 1/2 Rack	17 - Pin	24Vdc	24	NA		
C207	Controller 24Vdc/24Vdc Prop Speed A/Z Meters	20/50/90/130	Joystick Plug	Full / 1/2 Rack	17 - Pin	24Vdc	24	NA	X	X
C207HT	Controller 24Vdc/24Vdc Prop Speed A/Z Meters	20/50/90/130	Joystick Plug	Full / 1/2 Rack	17 - Pin	24Vdc	24	NA	X	X
C332	Controller 115Vac/24Vdc Prop Speed	20/50/90/130	Joystick Plug	Full / 1/2 Rack	17 - Pin	115Vdc	24	NA		
C337	Controller 115Vac/24Vdc Prop Speed A/Z Meters	20/50/90/130	Joystick Plug	Full / 1/2 Rack	17 - Pin	115Vdc	24	NA	X	X
C337HT	Controller 115Vac/24Vdc Prop Speed A/Z Meters	20/50/90/130	Joystick Plug	Full / 1/2 Rack	17 - Pin	115Vdc	24	NA	X	X
C432	Controller 230Vac/24Vdc Prop Speed	20/50/90/130	Joystick Plug	Full / 1/2 Rack	17 - Pin	230Vdc	24	NA		
C437	Controller 230Vac/24Vdc Prop Speed A/Z Meters	20/50/90/130	Joystick Plug	Full / 1/2 Rack	17 - Pin	230Vdc	24	NA	X	X

QUICKTRAC® CONTROLLERS ACCESSORIES	
Part Number	Description
CA100	Full Rack Kit
CA101	Half Rack Kit
CA102	Joystick Remote with 15 ft. Cable
CA102-30	Joystick Remote with 30 ft. Cable
CA112	Joystick Remote with 15 ft. Cable w/ Mil Spec Connector

UNICOM

UNICOM LT

PRODUCT OVERVIEW

The Unicom and Unicom LT digital interface tabletop controllers are designed to access and control all functions of Moog Pan and Tilt Postioners including many state-of-the-art sensor payloads. The Unicom is designed to control the full line of serial digital RS-232 / RS-422 / RS-485 based positioners including Ethernet (IP) networked systems. The Unicom LT was designed specifically to control the GeminEye line of positioners, but also can control Moog serial digital RS-232 / RS-422 / RS-485 based positioners for less complex and lower cost applications.

PRODUCT SPECIFICATIONS

Unicom

- Proportional Joystick with high speed or precision movement for pan and tilt movement
- 20 character by-line LCD display screen
- Control and program of presets and tours
- Rugged metal weatherproof chassis
- RJ45 Connector for Ethernet 10 / 100 Base T interface

Unicom LT

- 9-32VDC Power input
- 120VAC wall transformer
- Sensor compatibility
- Manual control of zoom, focus and iris commands
- Auto control of focus and iris commands

IC CONTROLLERS SPECIFICATIONS				
Part Number	Description	Control Interface	Applicable Models	Touchscreen Compatable
Unicom® LT				
CLT-1000	CONTROLLER JOYSTICK - UNICOM LT	RS-232, RS-422, RS-485	GeminEye, QPT- 20,50,90,200,500,QMP,QMP-R	NO
CLT-1000R	CONTROLLER JOYSTICK - UNICOM LT Ruggedized	RS-232, RS-422, RS-485	GeminEye, QPT- 20,50,90,200,500,QMP,QMP-R	NO
Unicom®				
C-JCC-116-NL	CONTROLLER JOYSTICK - UNICOM Ruggedized	RS-232, RS-422, RS-485, IP (TCP-IP)	GeminEye, QPT-20,50,90,200,500,QMP,QMP-R	YES

RS-485 Controller

PRODUCT OVERVIEW

Moog developed the VLC485 as a full-featured, compact controller offers tremendous versatility. The VLC485 controller provides PTZ control, programming capabilities, camera call-up, sequences and auto tours. The VLC485 works as a stand-alone operation or has the ability to work as part of a PC system. A serial port for connection to a PC can be used as an interface for user application software. The controller can interact with a multiplexor to allow multiple cameras monitoring with single button convenience. The VLC485 can be directly connected to another unit for single-user, multi-unit remote applications. A menu driven configuration and joystick control add to its ease of operation.

PRODUCT SPECIFICATIONS

Available Features

- LCD display
- Joystick control
- One remote unit
- Control for up to 99 Pan / Tilts
- 8 alarm inputs and 1 alarm output
- Supports up to 32 multiplexer channels
- Menu driven user configuration, password protected
- Can be used as stand alone or in conjunction with a PC

SPECIFICATIONS	
Models	**Description**
VLC485	RS-485 controller (2) RS-232 ports (1) RS-485 port, joystick control. Desk top model, 24Vac input power
Keyboard Keypad:	Waterproof multicolored keys. Numeric keypad and camera function keys. Uncommitted keys for use with PC port and user application software
Joystick:	2-axis, variable-speed
Display:	2-line x 20-character alphanumeric LCD display with backlight
Ambient Operating	
Temperature:	20˚F to 120˚F (-7˚C to 49˚C)
Dimensions (HxWxD):	2.25" x 9.5" x 7.125" (57.2 x 241.3 x 180.9mm)
Weights	
Unit:	2.5 lbs. (1.13 kg.)
Shipping:	5 lbs. (2.3 kg.)
Input Voltage:	5Vdc, 110V Wall transformer power supply provided
Power Consumption:	1 watt
Keyboard Connector	
RS-485:	(1)-4-pin, screw down connector
RS-232:	(2) DB9 connectors
Keyboard Communication	
Pan / Tilt Interface:	RS-485
Mux Interface:	RS-232
PC Interface:	RS-232
Pan / Tilt Operating Distance:	4000ft (1029m) on 24 AWG wire
Protocols:	Videolarm, Sensormatic, Pelco P, Pelco, Kalatel
Pan / Tilt:	4-pin screw down connector RS-485, up to 3000 ft. (914.4m) operation with 24 AWG, twisted pair wire
PC Serial:	DB9 connector RS-232, 9600 baud, 1-start, 1-stop 8-data bits,100 ft. (30.5m) operation with 24 AWG wire
Mux:	DB9 connector RS-232, 9600 baud, 1-start, 1-stop 8-data bits, 100 ft. (30.5m) operation with 24 AWG wire
Alarm Inputs:	9-pin screw down connections. Normally open inputs, 10K-ohm impedance
Alarm Outputs:	3-pin screw down connections 1 form C relay contacts, 1 amp. maximum current

GEM-2003

PRODUCT OVERVIEW

Industrial video systems designed for easy determination of glass width in the float glass bed.

The GEM-2003 consists of two industrial camera systems that can be used either within the spread, top rollers or exit-end range. The associated software detects and analyzes the glass edges and the top roller tracks. As a result the GEM-2003 determines the gross and net width of the drift and the distance between the glass edges and the top roller track. The drift indicates the deviation of the glass from the center position.

The measured values are displayed in the software interface and at the same time as an analog value (4to 20 mA). Positions are found in the video by colored markings. Optionally, the measured values via Profibus, Ethernet, Modbus and OPC can be transferred for further processing.

The GEM-2003 also offers the possibility of additional markers, drawn with a mouse click in the video image, to make individual distance measurements.

Camera models can be selected with a resolution of 720 x 576 pixels up to 1920 x 1080 pixels. The integration of cameras into the system is implemented via BNC inputs on your PC or network.

During commissioning, reference measurements are performed, guaranteeing accurate measurement results. Depending on the cameras used, the GEM-2003 achieves accuracy up to + l-2mm.

SYSTEM COMPONENTS
19” Industrial PC
Intel or Amd Processors of the Newest Generation
2GB of RAM
DVD Drive
4.20 mA Interface Card
Optional Relais Card
Ethernet Interface
Framegrabber with BNC Video Inputs
Windows 7 Professional Operating System
System Software

SYSTEM SOFTWARE
Automatic Tracking of Glass Edges and Toproller Tracks
Display of Absolute Positions
Display of Glass Gross Width
Display of Glass Net Width
Displays the Drift (Deviation of the Central Position)
Calculation of Mean Values Measured Over Long Periods
Storing of Multiple Measurement Profiles
Distance Calculation of Tags on the Pane of Glass

OPTIONS
Output Via Profibus-DP, Ethernet, Modbus and OPC
Signalling Via Relais the Exceedance of Limit Values

IM-CT Series

PRODUCT OVERVIEW

TFT/LCD industrial video colour monitors with front glass and metal housing.

PRODUCT SPECIFICATIONS

Available Features

- Panel size from 17" to 22"
- With optical glass filters
- VESA mounting

IM-CT-4318-3-IQ | IM-CT-4826-3-IQ | IM-CT-5622-3-IQ

SPECIFICATIONS			
	IM-CT-4318-3-IQ	IM-CT-4826-3-IQ	IM-CT-5622-3-IQ
Panel Size:	17" (43.18cm)	19" (48.3cm)	22" (55.9cm)
Optical Glass Filter:	•	•	•
Active Area (H x V):	13" x 10" (337 x 270mm)	14" x 12" (376 x 301mm)	19" x 12" (473 x 296mm)
Technology:	TFT Premium MVA	TFT Premium MVA	TFT
Resolution (Max.):	S x GA 1280 x 1024	S x GA 1280 x 1024	1680 x 1050
Aspect Ratio:	5 : 4	5 : 4	16 : 10
Brightness:	300 cd / m^2	300 cd / m^2	300 cd / m^2
Contrast Ratio:	800 : 1	800 : 1	1000 : 1
Viewing Angle (HN):	160° / 160°	160° / 160°	170° / 160°
Display Color:	16,7 Mio. (RGB 8-bit)	16,7 Mio.(RGB 8-bit)	16,7 Mio.(RGB 8-bit)
Response Time (R /F):	5ms	5ms	5ms
Frequency (H / V):	30kHz-80kHz / 50Hz-75Hz	30kHz-80kHz / 50Hz-75Hz	30kHz-80kHz / 50Hz-75Hz
OSD Control:	Picture Mode, Contrast, Brightness, Color Tint, Sharpness. Color Temperature, DNR	Picture Mode, Contrast, Brightness, Color Tint, Sharpness. Color Temperature, DNR	Picture Mode, Contrast, Brightness, Color Tint, Sharpness. Color Temperature, DNR
OSD Language	Multi	Multi	Multi
Monitor MTBF:	Min. 50.000 hours	Min. 50.000 hours	Min. 50.000 hours
Composite Output:	2 x BNC	2 x BNC	2 x BNC
Composite Input:	2 x BNC, 1 x VGA,1 x HDMI	2 x BNC, 1 x VGA,1 x HDMI	2 x BNC, 1 x VGA,1 x HDMI
Output Video:	2 BNC connection for Video loop-through	2 BNC connection for Video loop-through	2 BNC connection for Video loop-through
System:	PAL/NTSC	PAL/NTSC	PAL/NTSC
Power Requirement:	100 - 240Vac, 50 / 60Hz	100 - 240Vac, 50 / 60Hz	100 - 240Vac, 50 / 60Hz
Power Consumption Operational:	Max. 35W	Max. 35W	Max. 40W
Power Consumption Stand-By:	< 5W	< 5W	< 5W
Temperature:	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)

LOCATIONS

Argentina

Australia

Austria

Brazil

Canada

China

Finland

France

Germany

India

Ireland

Italy

Japan

Luxembourg

Netherlands

Norway

Philippines

Russia

Singapore

South Africa

South Korea

Spain

Sweden

Switzerland

United Arab Emirates

United Kingdom

United States

MOOG

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